

# DUN'S REVIEW

## and Modern Industry

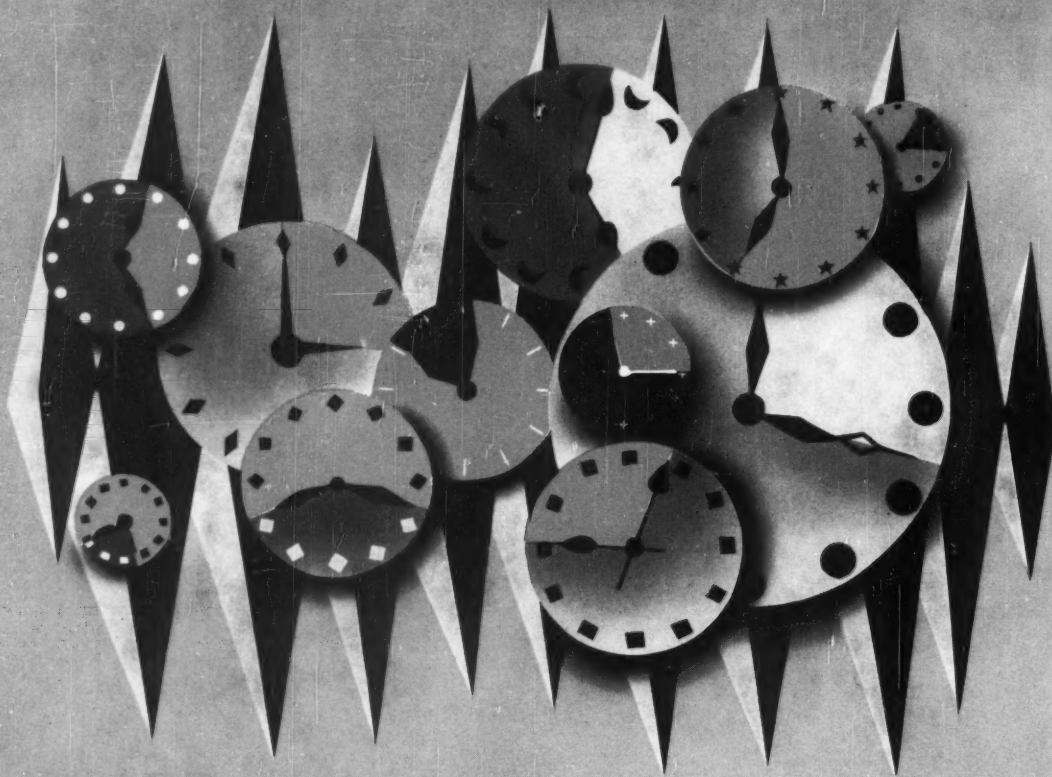
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A black and white aerial photograph of New York City, showing a dense urban landscape with numerous skyscrapers and buildings. The city extends to the waterfront, where a harbor with several ships is visible. The image serves as a background for the lower portion of the cover.

PURPOSE OF A BUSINESS . . . BUSINESS EXPECTATIONS  
SHEET FORMING . . . NATIONAL TRANSPORTATION POLICY

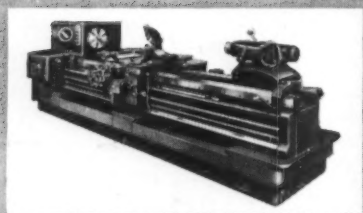


## "beat the clock"— is no game

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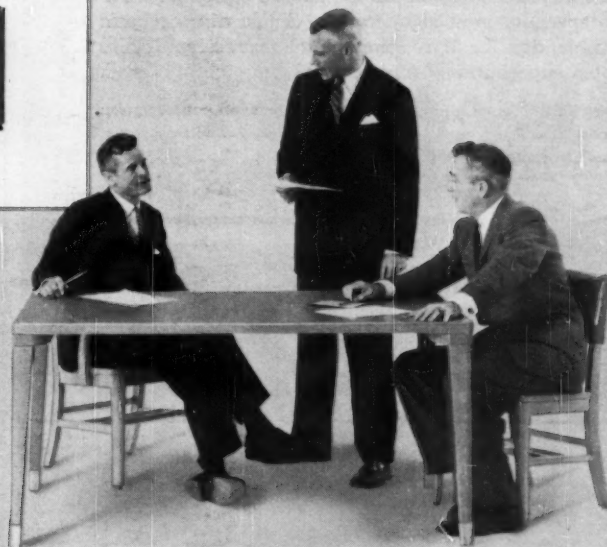
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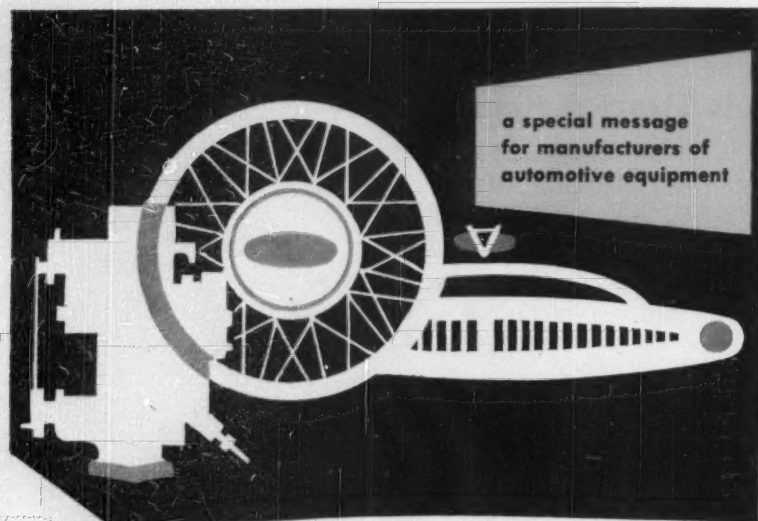
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## DUN'S REVIEW and Modern Industry

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AND  
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MEMORANDA



### Aiming for the Top.....39

WILLIAM B. GIVEN, JR.  
Chairman of the Board, American Brake Shoe Co.

The search for executive talent is a task that managements have been working at for some time. But little will be accomplished unless the members of middle management take steps to help themselves.

### Limiting the Risk in Employee Stock Plans.....41

ALFRED G. LARKE  
Employer Relations Editor

To-day's employee stock purchase and savings plans show that management has profited from unsatisfactory experience with the programs of the 1920's. Here is a report on details of some 1955 plans.

### Fourteen Important Ratios.....44

ROY A. FOULKE  
Vice-President, Dun & Bradstreet, Inc.

The ratios this month cover 24 wholesale lines and are devised to provide easy comparisons for business men who would like to know how they stand in the competitive picture of their particular field.

### How Will New Key Legislation Affect Industrial Shipping.....46

JAMES K. BLAKE  
Marketing Editor

Administration-sponsored changes in transportation policy that could directly affect industrial shipping costs face tough sledding in new Congress. Here's how they look to industry and the carriers.

### The Purpose of a Business.....51

LYNDALL F. URWICK  
Chairman, Urwick, Orr and Partners, Ltd.

Modern businesses have many responsibilities, but there can be only one purpose. To seek out that purpose and to find ways of putting it into practise are difficult jobs, but they can be accomplished.

### Formed Sheetting: Fast Road to Products, Packages, Promotion. 53

ANNETTA R. GARDNER  
Industrial Editor

Plastic sheeting can be transformed into sales aids and displays, containers and product components, with surprising ease and speed. Here is how you can put these interesting materials to work.

### Three Guides to Profit Control.....57

RAYMOND VILLERS  
Rautenstrauch & Villers

With another year soon to begin, executives look back on the past performance and wonder about the future. To choose between sales expansion and cost reduction is a difficult task requiring much thought.

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N O V E M B E R 1 9 5 5

D E P A R T M E N T S

Heard in Washington..... 7

The President's illness and its effects on the future are topics for much thought.

Business Men's Expectations..... 11

Results of a quarterly survey show how business feels about first quarter, 1956.

The Trend of Business..... 13

and Compass Points Quarterly

A detailed study of the nation's economy and what has happened in the past quarter.

Business Failures..... 25

The mortality rate of industry is another reflection of present business conditions.

Voice of Business..... 26

Comments by leading executives on free economy, marketing, machines, and money.

Editorial..... 36

What can the business man do for education and what can he expect in return?

Frontispiece..... 38

West-bound train leaves sun behind at Gila Bend, Arizona.—Robert Julian photo.

New Methods and Materials..... 67

What's new in aluminum, paper, and fibers; plus consumer-wise, time-saving plant ideas.

Sales and Distribution..... 75

"Class" art in ads; a salesman and his wife; packaging trends; the new sales executive.

Executive Bookshelf..... 79

Succinct reviews of latest business literature provide guides for busy executives.

Photo Visit..... 85

Hints of the high standards that will be necessary for nuclear component production.

Highlights and Sidelights..... 97

Thought-starters for management in research, production, promotion, distribution.

Business Quiz..... 101

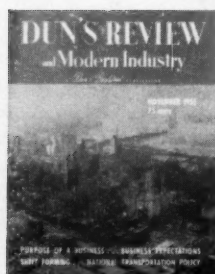
There's a lot of interest in the stock market these days, but how much do you know?

Employer Relations..... 109

Dramatic tricks and gimmicks enable safety engineers to get their points across fast.

Here and There in Business..... 113

Items of interest to management in commerce, industry, and finance.



Our Cover

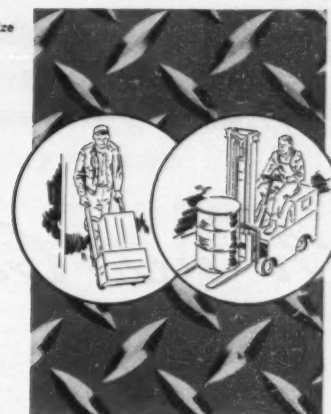
From the Merchandise Mart to the Loop, fanning out in all directions, Chicago stands as the gateway to East and West. An industrial giant, she is also our second largest city and the greatest rail center.

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## BUSINESS IN MOTION

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### *To our Colleagues in American Business . . .*

Last year a famous manufacturer of domestic refrigerators decided that an automatic juice dispenser would be a desirable feature for special models of its 1955 line. It was known that in many homes two kinds of concentrate are regularly stocked in the refrigerator. One is orange, the other may be lemon, lime, or some other juice. Two containers for concentrate were therefore required, size one pint each, plus a two-quart water tank, with appropriate connections with the household water system, and a metering mixing valve. Thus it would be possible for the housewife, or her children, to push a button or otherwise operate the valve, and obtain juice properly mixed with the correct amount of chilled water.

As is always the case with any good new idea, reducing it to practicality required a lot of hard work. The mixing valve was readily obtainable from a valve specialist. Unexpectedly, difficulties arose in connection with the water tank. This is made of red brass, 85/15. Two almost identical one-quart cups are drawn from soft strip, the seam brazed, the necessary water connections brazed in, and the outside tinned.

This would seem to be a simple operation, but Revere was told that there was too much breaking and tearing of the brass in drawing. Although at that time we were not supplying the brass, we were glad to work with the firm which had the tank contract. The Revere Research Department reported that the

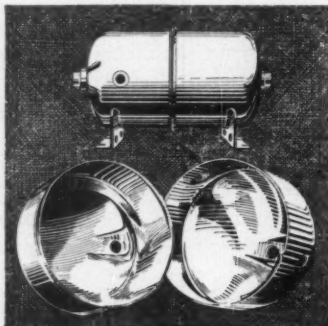
grain size of the unsatisfactory metal varied between .035 and .050 mm., and that holding the size closely to .050 mm. would cure the difficulty. In addition, suggestions were made as to die design, and die lubricants. Revere also was asked the reason for defects in brazing. This became another project for Revere Research, which sent a man to the plant to study the methods used. After some special work in the laboratory at Rome, N. Y., it was found possible to make a successful adjustment of conventional brazing

methods to the ones the fabricator wished to use. Still further, Revere's Methods Department recommended changes in the beading operation, ending breaking there. A Call Report written at the end of all this work states that the customer "is very enthusiastic in his praise."

Refrigerators with this new and enticing feature entered the market on schedule last spring. No premium was charged by Revere for the metal required,

nor was there a fee for our collaboration, which we render as a part of our service to American industry.

Manufacturers in a great many lines develop new ideas and new products constantly, as a part of the competitive process. If you encounter problems when you try to put something new into production, why not call in your suppliers? They know their materials, whether they be metals or plastics, glass, wood or whatever. Their knowledge added to yours can be worth a lot, yet it is free.



#### **REVERE COPPER AND BRASS INCORPORATED**

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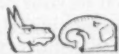
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OFFICIALS are being as frank about the business outlook as they have been in telling the public about the President's illness. They are not minimizing the effect on business of this turn of affairs. They expect the impact on business to be recognizable both here and abroad. Fortunately, this disturbing factor came at a time when some slowing down of the pace of business was widely regarded as desirable. Faith and fear are two important influences in the conduct of business. As a result of what has happened, the faith factor has decreased and the fear factor has grown. Few cancellations have been reported, but plans for plant expansion are being carried out with some mixed feelings.

One of the sustaining factors of the high rate of activity was the expectation that political stability would be maintained until 1960. This was based on the belief that Eisenhower would be re-elected. He had demonstrated that he could work with a Democratic Congress. Even were the Republicans unable to regain control of Congress in 1956, the feeling was that nothing upsetting would result. Much greater uncertainty now exists as to the political future. It does not augur well for business to have so many hats in the ring.



Business is on such solid ground that it can stand the slowing down that may result from the uncertainties of the political situation. That seems to be the general appraisal of the situation by those in a position to see more of the horizon than the average observer. Some feel that prosperity had become overblown. Certainly from a political standpoint it is better to take the impact of a readjustment this year rather than next year, if one must occur.

Illness of the President, all admit,

increases the chance of a change of Administration. That brings potential Democratic candidates under scrutiny, particularly in this great trade association center. A measure of comfort is derived from the fact that the titular head of the Democratic Party affirmed his faith in "democratic capitalism," and goes on record as accepting as one of our "great" principles that the "operation of industry is properly a private function."



It remained for the stockmarket to reveal the degree of confidence enjoyed by President Eisenhower. In a country where half of consumers' expenditures easily can be deferred or eliminated entirely, public confidence is particularly important. Commerce Secretary Weeks says prosperity cannot be maintained unless there is (1) consumer confidence, and (2) unimpeachable character in Government.

Increased political uncertainties occasioned by the President's illness are exerting some influence, it is believed, on wholesale prices, which were departing from a long record of stability. Any event which slows down pressures on these prices does something to obviate the creation of a dangerous peak.

Concentration of purchasing power in the middle brackets of income to the extent revealed by recent Census Bureau studies is regarded in Washington as a shift having broader significance market-wide than is generally recognized.

Appointment of Harold S. Vance as a member of the Atomic Energy Commission is being applauded. Production has become an important phase of the Commission's work. A man with long experience in industrial operation, he is in a

position to be very helpful in the present stage of nuclear development.

Instructions have gone out to the Commerce Department staff to indulge in no gratuitous advice as to how business should be run. The Department's function, its officials believe, should be limited to the presentation of facts intended to be of value. It is felt that business executives are thoroughly capable of making their own decisions once they have basic facts and figures such as the Department furnishes.

Attention is being called to an important development taking place in most of the States. Plans for attracting industries and for the use of their resources have been put on a more effective basis. Technical studies are being made and businesslike steps taken in fostering development. Tax concessions and subsidies are not being relied upon to the extent that once was the case. States are employing capable technicians in their efforts to bring about balance and diversification so that bulk of purchasing power does not come from one activity.



While the decline in prices of agricultural commodities is a matter with political appeal, it seems to have been overplayed as a factor of economic weakness. Farmers continue to pay off indebtedness. Few cases of distress are in evidence. Financially, farmers as a whole are in a strong position. Politicians seem to have lost sight of the decline in the percentage of farm votes.

The Secretary of Agriculture would be appreciative if current farm income were not compared so frequently with years when demand

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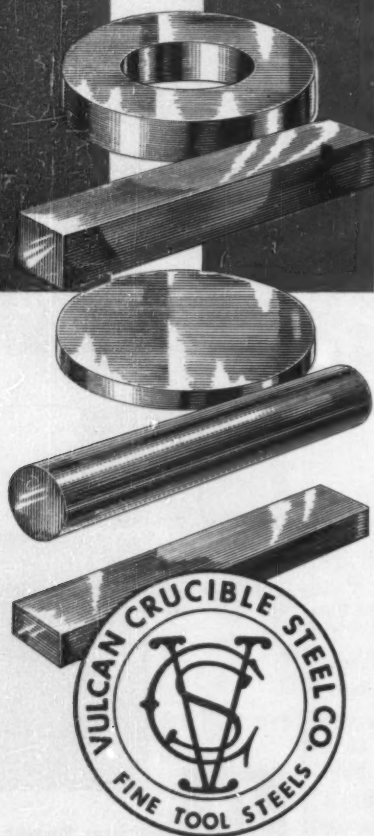
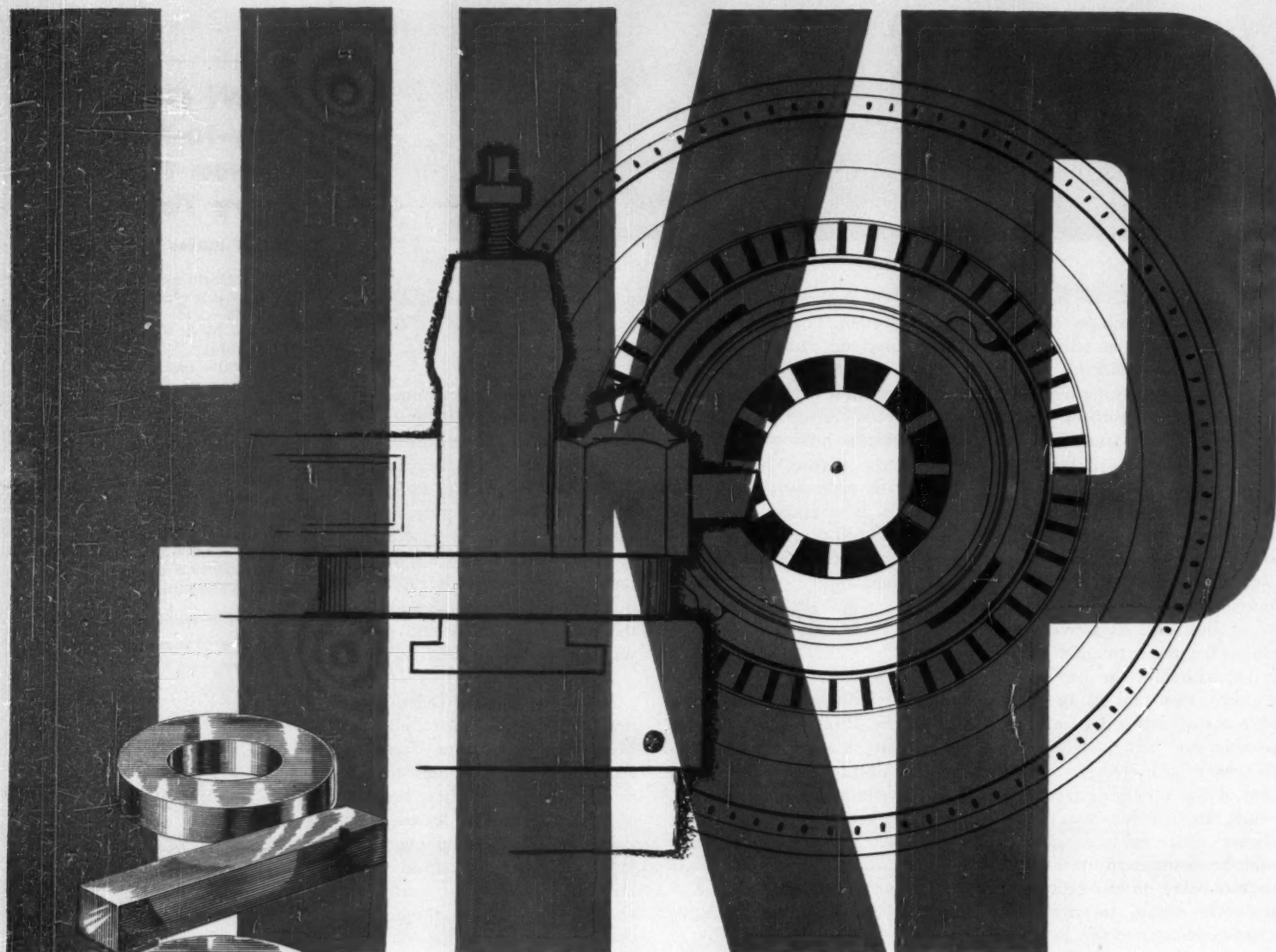
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was stimulated by the war situation. When other countries were not in a position to produce it was necessary to stimulate production here. Difficulties arise when United States production keeps up with war-time rate after other countries resume normal agricultural activities.

With savings at the present level a budget deficit of a billion or a surplus of a billion would make little difference in the general situation. The effort to bring out-go into line with receipts is not aimed at a precise balance.



A member of the Cabinet with long business experience says a well-organized company meets an unexpected development calmly. If there is confusion it is evidence that management has done a poor organizational job. He thinks the smoothness with which the Executive branch has functioned since the President's illness is proof that a man with a high order of organizing ability has been in command.

Legislators returning from Scandinavia have seen at first hand the results of trying to do too much too fast. Experience with inflation in those countries provides an example from which this country should profit, they think. Internal credit expansion, particularly in housing, has furnished more buying power than those countries can support. Interest rates held to artificially low levels not only bar out capital from other countries, but create so much domestic demand that production of goods for export has to be curtailed. Reinstatement of some of the good old rules of the gold standard would help, it is felt.

Exchequer Chancellor Butler seems to mean it when he says government expenditures in the United Kingdom will be cut back to the point necessary to support credit restrictions and other monetary policies of the Bank of England. It has been apparent for many months that what the British economy needs is action, not words. Apparently the British, at last, are going

to live within their income. One step at a time, convertibility of the pound sterling is coming nearer. Even now it is being used freely for a great variety of purposes throughout the world.



Mounting world buying power, plus intensified domestic competition, has made foreign trade more attractive to American manufacturers. They are finding, however, that the Germans and the British have been busy in the foreign field. In many places the competitors are so well entrenched that it will require all the ingenuity and selling skill American concerns can muster.

Need for trade is given as one reason for Soviet change of attitude. Soviet authorities apparently have reached the conclusion that the time has come when the living standards of the people must be raised. Restoration of East-West trade would help to that end.

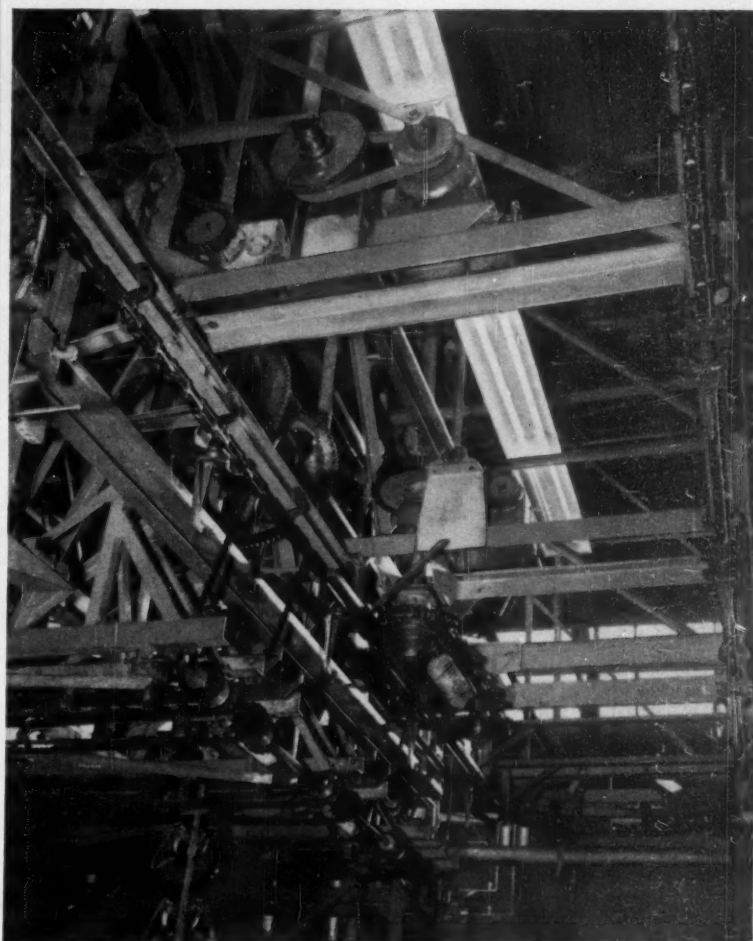
One of the accelerating factors in Europe, reports show, is the decline in cartel operations and the departure from fixed prices.

Recognizing that psychology is a fundamental factor affecting business activity, every effort is being made to remove doubts and uncertainty from the current situation and to take the necessary fiscal and monetary steps to keep up a healthy flow of activity, but in a democracy it takes more than monetary and fiscal action to control the situation. There must be co-operation from the public. Leaders in the business world must exercise statesmanship.

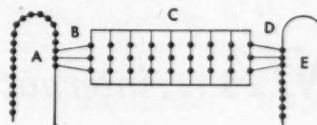
Industry's high rate of production has taken care of the tightness of supply that developed in the early Autumn. This has discouraged inventory accumulation at a time when some fears were expressed that the last half of the year would see such a rise in inventories as to foreshadow trouble in 1956, but latest sampling indicates that inventory accumulation is not out of step with economic activity.

*Paul E. Euston*

WASHINGTON, D. C.



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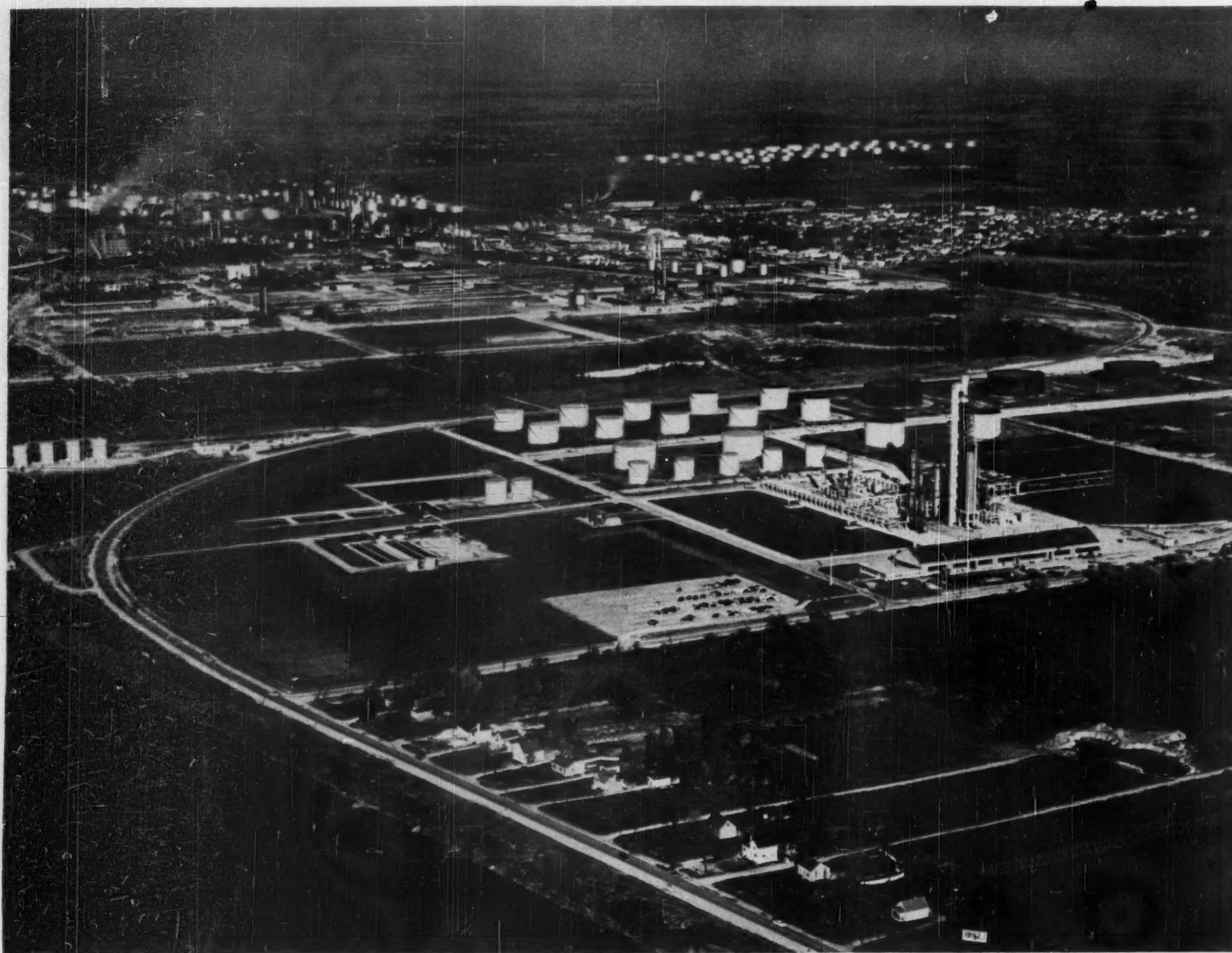


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One of the fastest-growing of Canada's industrial centers is Sarnia, Ontario. Sarnia lies at a natural crossroads, where the rail system of the Chesapeake and Ohio enters Canada across the St. Clair River, a part of the world's busiest waterway system. Thus Sarnia enjoys exceptionally good transportation, both by rail and water, to all parts of North America.

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# SALES AND PROFITS, LOOKING UP

DUN & BRADSTREET reporters bring you the results of interviews with the executives of 1,363 representative businesses; here is the near-future outlook as the decision-makers see it.

THAT THE current high rates of business activity would at least be maintained in the first quarter of 1956 was confirmed in the latest DUN & BRADSTREET survey of business men's expectations. Only 3 per cent of the executives interviewed thought that they would sell less in the early months of next year than they had this year. Some 67 per cent thought that their sales would rise.

Manufacturers, wholesalers, and retailers sold roughly \$157 billion worth of goods in the third quarter of 1955, just prior to the time the survey was made; this volume was about 10 per cent above the first quarter level. The retail executives felt particularly well able to hold their own, with just 1 per cent expecting volume to drop off. All of the executives were considerably more optimistic than last year at this time, when we were recovering from a slight recession and it appeared that the first quarter of 1955 might be less prosperous than it actually became.

More than half of the executives felt sure that their profits in the first quarter of 1956 would be higher than a year previously. Those expecting no change in profits were more than ten times as numerous as those expecting a decline. Manufacturers of durable goods, with 56 per cent expecting higher profits were somewhat more optimistic than the other business men. Corporate profits after taxes so far in 1955 have been running at an annual rate of over \$20 billion, roughly 26 per cent above the levels in 1953 and 1954 and close to the all-time high in 1950 (see Compass Point 15, page 15).

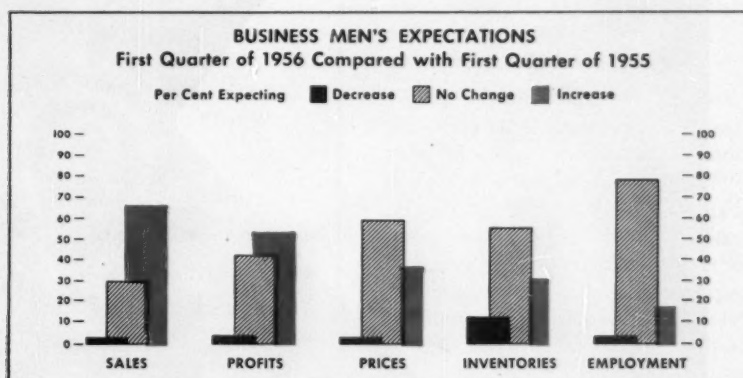
A larger proportion of business men than in previous surveys felt that they could increase their prices and still weather the competition. But the higher costs of labor and some materials would be absorbed without an increase in selling prices by 62 per cent of the businesses. Wholesalers were the most numerous among the busi-

ness men expecting to raise their selling prices, while retailers were the least numerous. Although the prices of some individual commodities in the third quarter of 1955 were substantially above the first quarter levels, the over-all retail and wholesale price indexes inched up very slowly. Inflationary pressures of the kind experienced in some of the post-war years seemed unlikely to develop in the coming months.

Although more than two-thirds of the executives expected higher sales in the first quarter of 1956 than a year ago, slightly less than one-third planned an enlargement of their inventories. More than half of the executives in all lines of business thought that stocks of the same magnitude as in the first quarter of 1955 would be adequate. This seemed to portend a continuation of the cautious inventory policy which has prevailed in 1955. The 10 per cent increase in business sales from the first to the third quarter of this year was accompanied by a 1 per cent increase in business inventories.

Although they didn't expect a sales increase quite as optimistically as the business men in other lines, the manufacturers of durable goods were the more numerous among those planning to enlarge their employment rolls in the first quarter of 1956. While 78 per cent of all the executives thought they would employ the same number of people as in the first quarter of 1955, those expecting an increase in their work forces were more than four times as numerous as those expecting a decrease.

Manufacturers of both durable and non-durable goods were substantially in agreement over the possible trend in new order volume, although slightly more of the producers of durable goods expected no change from a year ago (38 per cent as compared with 35 per cent of non-durables manufacturers). That their new orders in the first quarter of 1956 would exceed the comparable 1955 volume was expected by 62 per cent of the manufacturers of non-durable goods, 60 per cent of the manufacturers of durables.



### THE FIRST QUARTER OUTLOOK

A COMPARISON OF 1956 WITH 1955

Percentage Breakdown of Opinions Expressed

	ALL CONCERNS			MANUFACTURERS			WHOLESALE			RETAILERS		
	Increase	Unchanged	Decrease	Increase	Unchanged	Decrease	Increase	Unchanged	Decrease	Increase	Unchanged	Decrease
SALES.....	67	30	3	68	29	3	65	31	4	66	33	1
PROFITS.....	54	42	4	56	39	5	50	46	4	54	43	3
PRICES.....	38	59	3	35	62	3	45	52	3	34	64	2
INVENTORIES	32	56	12	37	53	10	28	58	14	28	59	13
EMPLOYMENT	18	78	4	23	73	4	13	83	4	9	88	3
NEW ORDERS	—	—	—	61	36	3	—	—	—	—	—	—



*"Vision is Indispensable to Progress"*

## How "magic pennies" helped change ice boxes to refrigerators, carriages to cars

Every manufacturer must spread the news about his products—quickly, effectively, inexpensively. One customer telling another is too slow.

*Mass selling* is the only way to stimulate mass demand. Advertising is simply mass selling that paves the way for salesmen. Through advertising, businesses tell millions about their products and services for a fraction of a penny for each person reached.

Lives are enriched by advertising which stimulates "wanting," generates new ideas, speeds development and acceptance of new products, cre-

ates new jobs. Without advertising, a magazine might cost five times more, newspapers would have only a few pages, and there would be relatively few publications and broadcasting stations.

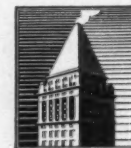
Advertising agencies prepare 30 million advertisements, 115 million TV and radio commercials, millions of booklets, letters, displays and other mass selling tools every year.

Business invests \$9 billion annually in advertising to inform people about everything from new drugs to home freezers. When millions respond by buying, production can be increased, economies effected, and prices reduced. This productive circle maintains the free market in which the American consumer enjoys the finest selection of goods and services on earth.

### **BANKERS TRUST COMPANY**

16 WALL STREET, NEW YORK 15, N. Y.

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION





# The Trend of BUSINESS

A N D

# Compass Points

Q U A R T E R L Y

## Balanced on a Peak

Like an agile mountain goat, the economy has been jumping from one peak to another for most of the past year. Whether this prodigious performance can be repeated in 1956 depends overwhelmingly on achieving and maintaining a delicate balance.

Last month, the nation's top economist, Dr. Arthur F. Burns, Chairman of the President's Council of Economic Advisers, took a close look at the economy and pronounced it in balance. But balance is in no sense to be equated with immobility for the growth of the economy has included a rise of 3 to 4 per cent in gross national product each year.

At this time a year ago, most economists and other informed observers thought that total product in 1955 would not top the prior year by more than about 1 or 2 per cent. Actually, the rise in GNP this year will most likely come to about 8 per cent, much larger than the estimate of even the most optimistic oracles.

The nudge given the economy in 1954 by the Government in the form of a hefty tax cut, easy credit, the Housing Act, and other measures apparently developed into a push. Another tax reduction now seems almost a certainty in 1956, while the credit policies can easily be reversed if too much stringency develops. Already there are a few scattered indications—the Federal Reserve has been buying Government bonds in recent weeks—that perhaps the credit reins are a bit too tight, particularly in view of the mild business uncertainty which has developed over the political outlook.

Despite the rather depressing reaction of the stock market to the President's illness, the other sensitive areas of the economy were not adversely affected, according to early information from many parts of the nation. During October business men went ahead as planned with their programs for expanding plants and equipment while inventories continued to grow to meet rising demand. Industrial hiring plans point to new peaks ahead in jobs while the buoyant buying mood of consumers continued unabated.

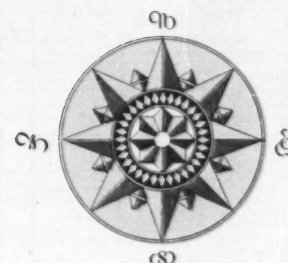
## The Outlook for 1956

In contrast to the widespread caution a year ago, most economists and business spokesmen

- ▶ *What economists expect in 1956*
- ▶ *Where productivity is rising*
- ▶ *Construction turns downward*
- ▶ *New rise in industrial orders*
- ▶ *No evidence of stock market break in rest of economy*

now look for a new all-time peak in gross national product next year. During the third quarter of 1955, GNP soared to \$392 billion and will probably rise again in the final quarter. Most observers now anticipate steady rises during the first two quarters of 1956, although they hesitate to estimate beyond mid-1956. There is some, although not considerable, doubt about the pace of business in the last half of 1956. Possible inventory gluts and political uncertainties are frequently mentioned.

There is remarkable agreement on the business outlook among the 201 economists polled by the F. W. Dodge Corporation in the latest annual survey, the most comprehensive of its kind. If their predictions hold true, as they have for the past few years, total business activity (GNP) will rise to a new peak in 1956.



Most members of this panel look for a slight decline in GNP during the last two quarters of 1956. However, the dip they anticipate is so slight that it would amount to a levelling off.

In sizing up the various markets for 1956, the economists were much more optimistic about consumer spending than about other sectors of the economy. About 84 per cent expect consumer spending to reach a new peak in 1956. Only 60 per cent look for a new record in business spending for new plant and equipment. Most expect a slight dip in construction. Also expected in 1956 are higher wages and prices.

## Stimulants in the Months Ahead

If you want to agree with most economists and other informed observers of the business scene, you will look for these stimulating influences in the months ahead:

- More spending by business and industry for plant and equipment expansion programs.
- Rising inventories—manufacturers', retailers', and wholesalers'—which can provide \$10 billion stimulus to total activity.
- Rising consumer expenditures, resulting from wage gains, higher minimum wages, tax cuts, and peak-level employment.
- Sustained Federal spending and rising State and local spending, particularly for school and highway construction. In the past two years, State and local spending rose steadily by about \$6 billion, while Federal spending dropped about \$14 billion.
- Stepped-up production of soft goods and a continuation of near-ceiling steel production for the first half of 1956.

Among the restraining influences which may be at work in the months to come, these are the most frequently listed:

- A decline in automobile production.
- Tightened credit.

*An expansion in the unit volume of the total output of goods and services in 1956 may result largely from increased consumer spending, while the current high rates of business investment and Government spending are sustained. The data prior to 1956 are from the Department of Commerce.*

# 39 COMPASS POINTS OF BUSINESS

## CENSUS

1	2
POPULATION	NAMES IN REFERENCE BOOK
Millions	Thousands
1914	99.1 1,655
1919	105.1 1,711
1929	121.8 2,213
1932	124.8 2,077
1939	130.9 2,116
1940	132.0 2,156
1943	136.5 2,027
1944	138.1 1,859
1945	139.6 1,913
1946	141.3 2,146
1947	144.0 2,410
1948	146.6 2,555
1949	149.2 2,684
1950	151.7 2,692
1951	154.4 2,614
1952	157.0 2,643
1953	159.7 2,673
1954	162.4 2,639
I	161.3 2,660
II	162.0 2,641
III	162.7 2,642
IV	163.5 2,644
I	164.2 2,644
II	164.8 2,640
III	165.5 2,654

## EMPLOYMENT

3	4	5	6
EMPLOYMENT	EMPLOYMENT	EMPLOYMENT	UNEMPLOYMENT
Civilian	Agricultural	Nonagricultural	Millions
Millions	Millions	Millions	Millions
1914	37.6	11.4	26.2
1919	42.0	10.5	31.5
1929	47.6	10.0	36.3
1932	38.9	9.7	28.0
1939	45.8	9.3	35.6
1940	47.5	9.5	38.0
1943	54.5	9.1	45.4
1944	54.0	9.0	45.0
1945	52.8	8.6	44.2
1946	55.2	8.3	46.9
1947	58.0	8.3	49.8
1948	59.4	8.0	51.4
1949	58.7	8.0	50.7
1950	60.0	7.5	52.5
1951	61.0	7.1	54.0
1952	61.3	6.8	54.5
1953	61.9	6.5	55.4
1954	61.2	6.5	54.7
I	60.0	5.6	54.4
II	61.3	6.8	54.4
III	62.1	7.3	54.8
IV	61.5	6.2	55.3
I	60.2	5.4	54.9
II	62.8	7.0	55.8
III	65.1	7.7	57.4

## PRICES

7	8	9	10
CONSUMERS' PRICES	RETAIL PRICES	WHOLESALE PRICES	INDUSTRIAL STOCK PRICE AVERAGES
Index	Index	Index	Dollars
1914	42.9	43.3	81.03
1919	74.0	88.1	99.78
1929	73.3	61.9	311.24
1932	58.4	42.8	64.57
1939	59.4	50.1	142.66
1940	59.9	51.1	134.74
1943	74.0	67.0	134.81
1944	75.2	67.6	143.32
1945	76.9	68.8	169.82
1946	83.4	78.7	191.65
1947	95.5	96.4	177.58
1948	102.8	104.4	179.95
1949	101.8	99.2	179.48
1950	102.8	103.1	216.31
1951	111.0	114.8	257.64
1952	113.5	111.6	270.76
1953	114.4	110.1	275.96
1954	114.8	110.2	333.91
I	115.0	110.3	292.64
II	114.9	110.3	320.56
III	115.0	110.3	346.67
IV	114.4	109.7	375.79
I	114.3	110.2	405.86
II	114.2	110.2	428.44
III	114.6	110.9	466.74

At this rate, 228.5 by 1975!

about 3 per cent of labor force

## SALES

21	22	23	24	25	26
FARM RECEIPTS	EXPORTS	IMPORTS	RETAIL SALES	WHOLESALE SALES	MANUFACTURING SALES
Million dollars	Million dollars	Million dollars	Million \$	Million \$	Million \$
1914	6,039	2,114	1,789	...	...
1919	14,570	7,920	3,904	36,549	60,509
1929	11,299	5,241	4,399	48,459	37,814
1932	4,735	1,611	1,323	25,013	...
1939	8,582	3,177	2,318	42,042	26,244†
1940	9,056	4,021	2,625	46,375	28,919
1943	20,003	12,965	3,381	63,235	45,966
1944	21,153	14,259	3,929	70,208	49,828
1945	22,125	9,806	4,159	78,304	53,708
1946	25,336	9,738	4,942	102,488	71,915
1947	30,020	14,430	5,756	119,604	87,263
1948	30,464	12,653	7,124	130,521	95,172
1949	28,129	12,051	6,622	130,721	88,252
1950	28,611	10,275	8,852	143,689†	103,896
1951	33,084§	15,030	10,967	158,223	113,168
1952	32,648	15,177	10,714	164,085	112,325
1953	31,188	15,698	10,875	170,742	111,990
1954	30,211	15,059	10,205	170,664	109,291
I	6,771	3,395	2,501	37,946	25,252
II	6,058	4,298	2,733	43,228	26,742
III	7,876	3,549	2,427	42,425	28,608
IV	9,506	3,817	2,544	47,068	28,689
I	6,440	3,741	2,739	40,745	26,840
II	5,876	3,887	2,776	46,824	28,570
III	7,507	3,795	2,774	46,904	29,600

At \$182 billion for the year?

## INVENTORIES

27	28	29
RETAIL INVENTORIES	WHOLESALE INVENTORIES	MANUFACTURING INVENTORIES
Million \$	Million \$	Million \$
1914	...	...
1919	...	12,906
1929	7,298	4,024
1932	...	2,307
1939	5,285	3,075†
1940	5,819	3,255
1943	7,065	3,759
1944	7,105	3,969
1945	7,442	4,625
1946	11,231	6,606
1947	13,372	7,613
1948	15,190	7,982
1949	14,570	7,913§
1950	18,699§	10,474
1951	19,904	11,068
1952	20,234	11,310
1953	21,208	11,695
1954	22,090	11,562
I	23,321	11,843
II	22,131	11,488
III	22,498	11,752
IV	22,090	11,562
I	23,520	11,620
II	22,840	11,520
III	23,600	12,000

Some metal hard to get

## Sources of the Statistical Data

**CENSUS** 1. POPULATION: U. S. Bureau of the Census—2. NAMES IN REFERENCE BOOK: Dun & Bradstreet, Inc.

**EMPLOYMENT** 3. CIVILIAN EMPLOYMENT, 4. AGRICULTURAL EMPLOYMENT, 5. NONAGRICULTURAL EMPLOYMENT, 6. UNEMPLOYMENT: U. S. Bureau of the Census.

**PRICES** 7. CONSUMERS' PRICES: U. S. Bureau of Labor Statistics—8. RETAIL PRICES: U. S. Office of Business Economics—9. WHOLESALE PRICES: U. S. Bureau of Labor Statistics—10. INDUSTRIAL STOCK PRICE AVERAGES: Dow-Jones & Company.

**INCOME** 11. WEEKLY HOURS, 12. WEEKLY EARNINGS OF INDUSTRIAL WORKERS: U. S. Bureau of Labor Statistics—13. DISPOSABLE PERSONAL INCOME: U. S. Office of Business Economics—14. DISPOSABLE INCOME PER CAPITA, 1954 Dollars:

Compiled by dividing Series 13 by the items in Series 1 and adjusting for changes in Series 7—15. CORPORATE PROFITS AFTER TAXES: U. S. Office of Business Economics.

**PRODUCTION** 16. INDUSTRIAL PRODUCTION (PHYSICAL): Federal Reserve Board—17. ELECTRIC POWER PRODUCTION: Federal Power Commission—18. BUILDING PERMITS, 120 CITIES: Dun & Bradstreet, Inc.—19. EXPENDITURES FOR PLANT AND EQUIPMENT: U. S. Department of Commerce and Securities



# a record of business activity

## INCOME

11 WEEKLY HOURS Indust. Workers Hours	12 WEEKLY EARNINGS Indust. Workers Dollars	13 DISPOSABLE PERSONAL INCOME Billion Dollars	14 DISPOSABLE INCOME Per Capita 1954 Dollars	15 CORPORATE PROFITS AFTER TAXES Billion dollars
49.4	11.01	33.2	894	1.9
46.3	22.08	63.5	934	5.7
44.2	25.03	83.1§	1,069§	8.3§
38.3	17.05†	48.7	766	-3.4
37.7	23.86	70.4	1,041	5.0
38.1	25.20	76.1	1,106	6.5
44.9	43.14	133.5	1,517	10.5
45.2	46.08	146.8	1,618	10.4
43.4	44.39	150.4	1,607	8.3
40.4	43.82	159.2	1,551	13.4
40.4	49.97	169.0	1,412	18.2
40.1	54.14	187.6	1,429	20.3
39.2	54.92	188.2	1,422	15.8
40.5	59.33	206.1	1,518	22.1
40.7	64.77	226.1	1,515	18.7
40.7	67.97	236.7	1,524	16.1
40.5	71.69	250.4	1,573	17.0
39.7	71.65	254.8	1,569	17.0
39.5	70.97	253.1•	1,565•	16.3•
39.3	70.87	253.9•	1,565•	16.8•
39.6	71.28	254.5•	1,561•	16.7•
40.3	73.30	257.8•	1,581•	17.9•
40.4	75.12	261.0•	1,595•	20.4•
40.6	75.12	270.4•	1,627•	21.4•
40.7	77.12	272.0•	1,647•	21.8•

higher wage rates  
more overtime

## PRODUCTION

16 INDUSTRIAL PRODUCTION (PHYSICAL) Index	17 ELECTRIC POWER PRODUCTION Billions kwh	18 BUILDING PERMITS 120 Cities Million \$	19 EXPENDITURES FOR PLANT & EQUIPMENT Billion dollars	20 GROSS NATIONAL PRODUCT Billion dollars
33	...	735	...	38.5
39	...	1,181	...	77.9
59	116.7	2,490	9.2	104.4§
31	99.4	336	2.6	58.5
58	161.3	1,029	5.5	91.1
67	179.9	1,104	6.5	100.6
127	267.5	419	4.5	192.5
125	279.5	709	5.2	211.4
107	271.3	1,028	8.7	213.6
90	269.6	2,089	14.8	209.2
100	307.4	2,470	20.6	232.2
104	336.8	3,111	22.1	257.3
97	345.6	3,131	19.3	257.3
112	388.7	4,466	20.6	285.1
120	432.3	3,654	25.6	328.2
124	463.1	3,523	26.5	345.2
134	516.5	4,034	28.4	364.5
125	544.6	4,143	26.8	360.5
124*	131.5	948	6.3	358.3•
124*	131.4	1,119	6.9	357.6•
123*	138.7	1,084	6.6	358.8•
128*	143.1	992	7.0	367.1•
133*	147.8	1,157	5.8	375.3•
138*	149.4	1,363	7.0	384.8•
140*	149.0	1,191	7.7	392.0•

another  
peak

↓ down, but higher than 2 year ago

## FEDERAL

30 FEDERAL RECEIPTS Million dollars	31 FEDERAL EXPENDITURES Million dollars	32 GROSS FEDERAL DEBT Billion dollars
735	735	1.2
5,152	18,515	25.5
4,033	3,299	16.9
2,006	4,535	19.5
5,103†	8,966†	40.4
5,265	9,183	43.0
22,202	79,622	136.7
43,892	95,315	201.0
44,762	98,703	258.7
40,027	60,703	269.4
40,043	39,289	258.3
42,211	33,791	252.3
38,246	40,057	252.8
37,045	40,167	257.4
48,142	44,633	255.2
62,129	66,145	259.1
65,218	74,607	266.1
70,216	64,851	274.4
24,638	15,480	273.3
20,340	17,807	271.9
13,229	16,577	273.6
12,009	14,987	278.8
21,876	15,667	274.0
22,253	17,261	274.4
14,237	16,607	277.5

## FINANCE

33 CONSUMER CREDIT Outstanding Billion dollars	34 LOANS OF COMMERCIAL BANKS Billion dollars	35 CURRENCY OUTSIDE OF BANKS Million \$	36 DEMAND DEPOSITS ADJUSTED Million \$	37 INTEREST ON BUSINESS LOANS Per cent
...	13.2	1,533	10,082	...
...	22.4	3,593	17,624	6.58
6.4	35.7	3,557	22,809	5.83
3.6	21.8	4,669	15,728	4.71
7.2	17.2	6,401	29,793	2.10
8.4	18.8	7,325	34,945	2.10
4.9	19.1	18,837	60,803	2.60
5.1	21.6	23,505	66,930	2.40
5.7	26.1	26,490	75,851	2.20
8.4	31.1	26,730	83,314	2.10
11.6	38.1	26,476	87,121	2.10
14.4	42.5	26,079	85,520	2.50
17.1	43.0	25,415	85,750	2.70
20.8	52.2	25,398	92,272	2.70
21.5	57.7	26,315	98,234	3.10
25.8	64.3	27,494	101,500	3.50
28.9	68.3	28,091	103,300	3.69
28.5	71.2	27,400	106,900	3.61
28.2	67.1	26,900	96,700	3.72
28.4	67.1	27,093	98,132	3.60
28.8	72.2	26,900	101,200	3.56
29.4	72.2	27,400	106,900	3.55
29.9	72.2	26,800	102,400	3.54
32.5	75.7	27,100	103,400	3.56
33.7	76.7	26,900	104,000	3.58

see chart on  
page 20

## FAILURES

38 BUSINESS FAILURES Number	39 LIABILITIES OF FAILURE Million \$
18,280	357.9
6,451	113.3
22,909	483.3
31,822	928.3
14,768	182.5
13,619	166.7
3,221	45.3
1,222	31.7
810	30.2
1,130	67.3
3,476	204.6
3,252	234.6
9,246	308.1
9,162	248.3
8,058	259.4
7,611	283.3
8,862	394.2
11,086	462.6
2,895	134.6
2,883	122.6
2,587	101.2
2,721	104.2
2,854	121.1
2,772	107.3
2,571	101.7

& Exchange Commission—20. GROSS NATIONAL PRODUCT: U. S. Office of Business Economics

SALES 21. FARM INCOME: U. S. Bureau of Agricultural Economics—22. EXPORTS, 23. IMPORTS: U. S. Bureau of the Census—24. RETAIL SALES, 25. WHOLESALE SALES, 26. MANUFACTURING SALES: U. S. Office of Business Economics.

INVENTORIES 27. RETAIL, 28. WHOLESALE, 29. MANUFACTURING: U. S. Office of Business Economics.

FEDERAL 30. FEDERAL RECEIPTS, 31. FEDERAL EXPENDITURES, 32. GROSS FEDERAL DEBT: U. S. Treasury Department.

FINANCE 33. CONSUMER CREDIT, 34. LOANS OF COMMERCIAL BANKS, 35. CURRENCY OUTSIDE OF BANKS, 36. DEMAND DEPOSITS ADJUSTED, 37. COMMERCIAL LOAN RATES: Federal Reserve Board.

FAILURES 38. BUSINESS FAILURES, 39. LIABILITIES OF FAILURES: Dun & Bradstreet, Inc.

## Footnotes

†Figures for this and prior dates are from another source and are not strictly comparable with later data.

‡Beginning in 1937 tax refunds are deducted from receipts and are not included among expenditures.

•Annual rate seasonally adjusted.

\*Quarterly figures seasonally adjusted.

§Series revised from this date.

Second quarter figures for most series are based upon preliminary estimates and incomplete data.

## Regional Highlights . . .

● In per capita personal income, residents of Nevada ranked first last year, with \$2,414, outdistancing Delaware and Connecticut for the first time. Mississippi, with an average per capita income of \$873, remained at the tail end, one of the two states (the other Arkansas) with less than \$1,000 per person. Regionally, incomes were highest in the Pacific and Middle Atlantic areas, lowest in the East South Central.

● For the first time this year, building permit values in September dropped below the year-ago level in the Western half of the country. Offsetting increases in the New England, Middle Atlantic, and East Central states were not of sufficient magnitude to rescue the United States total which sagged 1 per cent below the September 1954 level, the first such year-to-year drop in 14 months.

● Gains from a year ago in retail trade in the first half of October ranged from 3 per cent in the New England area to 6 per cent in the Middle West, Southwest, and Pacific Coast.

- Decreased residential construction.
- Lower farm income.

### Output Still Rising

Industrial production reached a new all-time high again in October, according to spot surveys in many parts of the nation. In September, the Federal Reserve Board's index of industrial production moved to a previously untouched peak of 141 (1947-1949 = 100) and was up 10 per cent from the year-ago level.

Steel-making scored another record last month as steel users scrambled for steel which is still in very short supply. With the completion of

model-changeovers in auto plants, the steel shortage should become even more acute. Near-capacity operations seem assured for the first quarter of 1956, considering the mounting backlogs. Steel output for 1955 will probably reach about 115 million tons, a new peak, well above the anticipations of most steel-makers last year.

With the resumption of production after the changeover period, auto-makers seemed headed for a 1955 total of about 8 million cars, considerably above the previous record of 6.6 million in 1950. Most industry observers think that 1956 output may fall slightly below this peak. The new expansion plans of the major automobile manufacturers provide for a capacity of 10 mil-

lion automobiles and trucks within the next year.

Since dealers managed to reduce their stocks to the normal level of 500,000 last month, there is much less apprehension over automobile inventories than there was a few months ago.

Manufacturers' new orders were unusually high again during October. The latest monthly survey by the National Association of Purchasing Agents of 200 of its members indicates that new orders in October were as high as, or higher, than in the previous month.

While most (72 per cent) of the purchasing agents noted that commodity prices were still rising in October, the number of items with higher price tags was somewhat smaller than in recent months. There were many reports of severe shortages of trained engineers and skilled workers. Still in short supply last month were aluminum, copper, nickel, steel, paper, titanium dioxide, cement, and glass.

As it did in September, the production of soft goods will probably rise more than usual from now until March 1, 1956, when the new minimum wage of \$1 an hour takes effect. This hasty inventory building may lead to some gluts in the second quarter, particularly in apparel, where style changes can make goods difficult to move.

### Changes in the Job Pattern

Spot checks in most parts of the nation last month indicated that the non-farm employment rolls again increased, as they have since the beginning of the year. At 50.5 million, such employment was at the highest level since December 1952, the all-time peak, and about 2 million higher than in October 1954.

Even more meaningful than the year-to-year changes in employment are the significant shifts which have occurred during the past two years, the period which encompasses the 1953-1954 recession and the 1954-1955 recovery. By comparing employment in the two periods of high-level activity, it is possible to discern what may be long-term underlying movements in the economy.

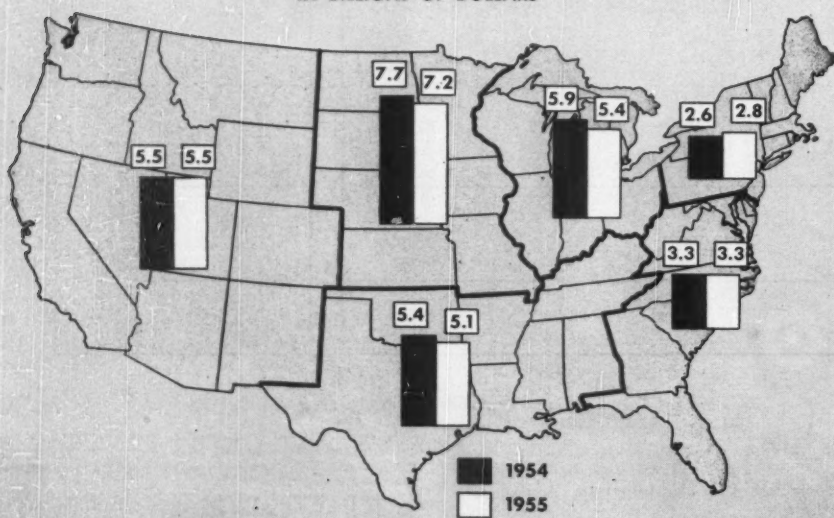
Although total non-farm jobs were up last month from October 1953 by about 1 per cent, employment in most industrial and trade divisions was still below two years ago. The deepest decline from the October 1953 level was in mining jobs, down 11 per cent to the lowest level since the depths of the Depression in the early thirties. In contrast, the output of the nation's mines has risen 7 per cent during the past two years, indicating increased mechanization.

Factory employment dipped seasonally last month; although it was above a year ago, it was down 2 per cent from October 1953. Nevertheless, products flowed from factories at a level 6 per cent higher than two years ago. The workweek was slightly longer than in 1953, but nearly all the rise in factory output could be traced to increased productivity.

Producers of soft goods have scored more spectacular gains than have durable goods plants in the past two years. With their work forces

*Falling for the fourth consecutive year, total farm income in 1955 will probably be close to \$29 billion, 11 per cent below the all-time peak in 1951, but more than 60 per cent larger in actual buying power than in 1939. Regionally, farmers in the East North Central area suffered the greater loss in income so far this year, while in two regions, the South Atlantic and Western, farmers seem to be holding their own.*

**FARM INCOME**  
IN BILLIONS OF DOLLARS





# ORGANIZED FOOD SERVICES INSURE the facilities you have set up for efficient and harmonious RELATIONS

with

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INDUSTRIAL CAFETERIA



FOOD VENDING MACHINES



MOBILE FOOD SERVICE

## Students



COLLEGE DINING ROOM



MILITARY SCHOOL DINING ROOM



COLLEGE SELF-SERVICE

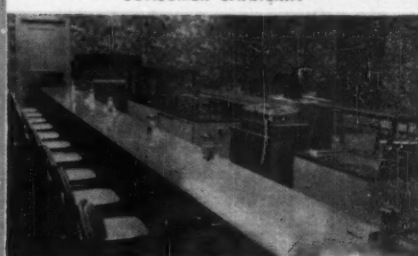
## Customers



CUSTOMER DINING ROOM



CONSUMER CAFETERIA



CUSTOMER COFFEE SHOP

In industrial plants, schools and colleges, department stores and large places of business, major capital expenditures have been made for equipment. Valuable space has been allocated for the furtherance of human relations between employer and worker, faculty and student, retailer and customer. To make these major investments and efforts really successful for the supplying, preparing and serving of well-balanced, appetizing and fair-priced foods, requires the direction of specialists in the field of Organized Food Services.

The Prophet Co., serving industrial, institutional and consumer food establishments in more than 140 great installations, from coast-to-coast, offers more than 35 years of experience, knowledge and versatility that will insure the success of your feeding programs — and on a basis that will establish for your organization a fair return for the time, space, investment and effort you have made.

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## Potentially, it's the best

*And Louden has the equipment, the experience and the engineering to turn its advantages to greatest account*

For many types of materials in many kinds of plants, overhead handling does indeed offer inherent advantages over other methods of handling. And Louden engineering, experience and range of equipment turn these advantages to greatest account. The Union Iron & Steel Company, Inc., shows how. Largest independent in Cincinnati, Union warehouses steel bars, plates and sheets to be cut and shipped to order. Union *had* overhead handling before, a crane that unloaded stock from freight cars and transferred its load roundabout to one of 4 parallel monorail tracks. But this resulted in slow handling and "dead" spots in storage.

Louden proposed an unusual installation with crane operating in the diagonal position to conform to the angle of the railroad siding at the rear of the building. This direct, flexible, straight-line handling would give inch by inch coverage of the storage area. Louden equipment was installed and it reduced unloading time from 4 hours for a 50-ton car to 50 minutes—a ton a minute. With every foot of space utilizable, Union gained 25% in storage capacity. Handling of stock to cutting machines was greatly expedited as well.

The difference lies in engineering concept. Louden's long experience gives a resourcefulness and flexibility of approach, an ability to deliver *better* handling to you. Your plans *should* include a consultation with Louden experts.

### THE LOUDEN MACHINERY COMPANY

5511 Broadway, Fairfield, Iowa

A Subsidiary of Mechanical Handling Systems, Inc.

# Louden

**MONORAIL & CRANES**

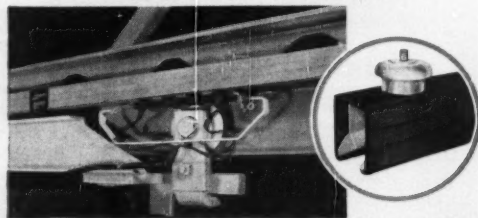
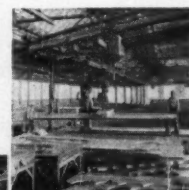
SINCE 1867... THE FIRST NAME IN MATERIALS HANDLING



Louden 5-ton crane operates in the diagonal position to conform to the angle of the railroad siding at the rear of the building. Unlimited lengthwise and crosswise travel utilizes every foot of storage space.

Louden crane and lifting magnet lift 5-ton steel plate to "burning" table to be cut to shape.

Louden crane lifts 5-ton bundle of 60 foot angle iron to transfer to cutting machine.



**New! Louden Shokpruf Electrification** for all monorail and crane installations. Hazards of open conductor bars now completely overcome by this exclusive Louden engineering development. Write for full details of this safe conductor system.



reduced 2 per cent and with slightly longer hours, producers of non-durables last month topped the output level of October 1953 by 9 per cent. Durable goods plants had a 1953-1955 rise of 5 per cent in output, with a reduction of 2 per cent in payrolls. Such gains have enabled many companies to offset rising labor costs, protecting profit margins from the cost-price squeeze which is afflicting many small businesses. The apparent increases in productivity have been about on a par with the improvement in real income. Factory workers are now earning about 8 per cent more than they did two years ago, while the cost of living is down slightly.

Among the lines in which jobs have become more numerous in the past two years are: retail and wholesale trade (up 3 per cent); finance, real estate, and insurance (up 8 per cent); government (up 5 per cent); and service and miscellaneous (up 2 per cent).

So it seems that increased productivity brought larger incomes to fewer workers in industry, enabling them to divert more of their spending to services, thereby providing more jobs.

Early information reflected another small dip in unemployment in October to about 2 million, the lowest point since November 1953. It seems unlikely that there will be further declines in unemployment during the next few months. When the economy is close to the full-employment ceiling, many marginal workers are attracted to the labor force and help to keep unemployment totals from diminishing.

A substantial number of housewives entered the labor force in September, so that women accounted for an unusually high proportion of the unemployed—about 45 per cent (Compass Point 6, page 14).

The ranks of the long-term jobless continued to thin in September and were much less than they were a year ago. There are now only four severely distressed labor market areas in the nation. Only in Lawrence, Mass., Johnstown, Scranton, and Wilkes-Barre—Hazelton, Pa.,

did unemployment amount to more than 12 per cent of the local labor force, with little improvement in sight for the next few months. Nation-wide unemployment amounted to 3 per cent of the labor force, an almost irreducible level.

### Higher Business Spending

What of the outlook for employment and production in the months to come? The basic support for business comes from consumer spending, which accounts for roughly 65 per cent of the gross national product. When jobs seem secure and layoffs unlikely, consumers are usually willing to spend freely; they may go into debt, or spend savings, thereby putting back into the spending stream more than they withdraw as wages. So to a large extent, an increase in employment depends on the employees' confidence in the future. The employees' outlook, in turn, is influenced considerably by decisions at the top level of management.

While business's investment in inventories and new productive facilities normally constitutes about 15 per cent of total national output, the impact of this spending is far greater than the proportion might imply. With a weather eye cocked at both the Government, the world's largest buyer of goods and services, and at the well-heeled consumers, business men currently seem optimistic. This optimism is reflected in the latest DUN & BRADSTREET survey of business men's expectations (page 11), and in the Government's recent survey of plans for plant and equipment outlays in the coming months. In the D&B survey, almost three times as many executives expected to enlarge their inventories as thought they would reduce them. Plant and equipment expenditures are expected to run 5 per cent above a year ago in the fourth quarter of 1955, boosting the 1955 total to almost \$28 billion, a near-record.

### Retail Rise Sighted

Consumers seem likely to go on spending about 94 per cent of their incomes in the months ahead. Personal income, which rose this year at an average rate of about \$1 billion a month, appears headed for new high ground. The salutary ef-

## Choose the right packaging closure the way you buy a truck!



IN TRUCKS, it's the type of performance you need that decides your ultimate choice. In packaging too, the needs of your particular operation should decide the closure you use. Hudson has an improvement to give you more speed, more efficiency, more protection, and more economy too! Select the product you want to free test and let us send you a sample:

**FASTWELD** for speed in two-strip\* production line sealing—for overall center seam protection that beats stapling, stitching or gluing. The fastest closure possible, and the biggest labor-saver. Reinforced in both directions with Fiberglas®, Fastweld comes to you with an extra heavy coat of Hudson's exclusive adhesive—Supple-ized® for easier handling.

\*Authorized by amended U.F.C. Rule 41

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**ORANGE CORE** for economical standard sealing. Every inch on every roll sticks with the same bulldog grip because Hudson controls all its ingredients. Hundreds of thousands of users depend on Orange Core's consistently superior quality and have made it the world's largest selling gummed sealing tape.

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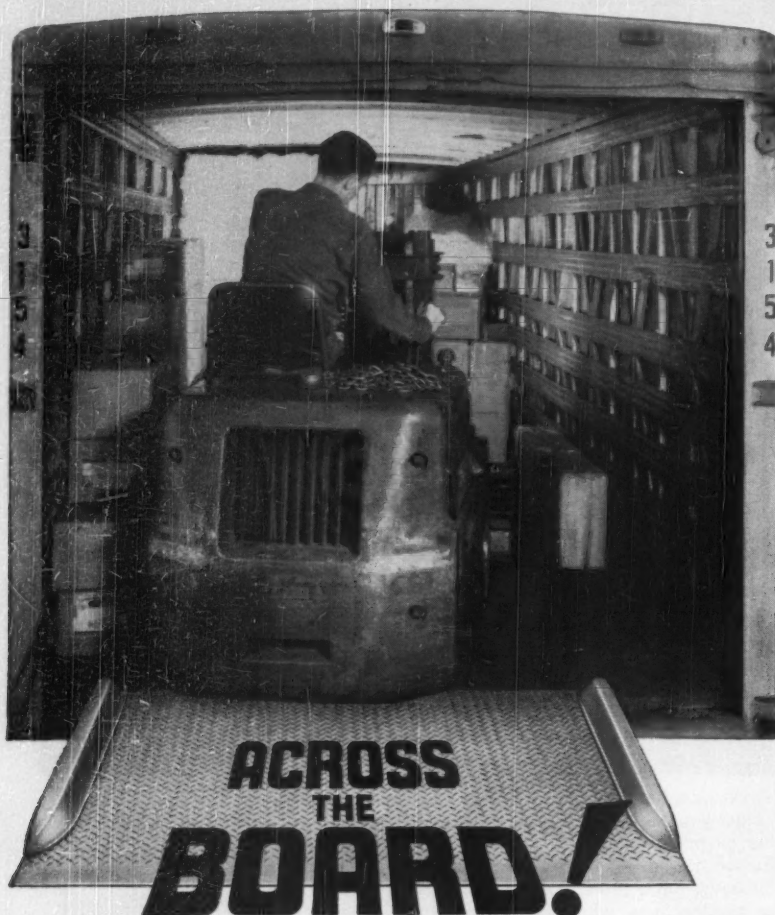
477 Madison Ave., New York 22, N. Y.



**P.S.** On your letterhead—write Dept. D-11 and tell us which product you want to free-test . . . Fastweld, Blue Ribbon, or Orange Core!

This is a Business Conditions Staff Report, prepared largely from information gathered in 140 DUN & BRADSTREET offices in 46 States.

## how to REDUCE LOADING COSTS...

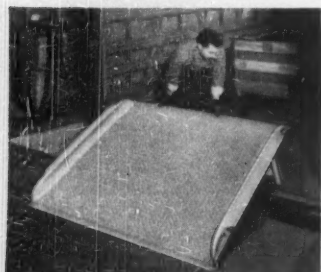


The day you drop a Magliner magnesium dock board into place on your loading dock you've started saving money *right across the board!* Loading bottlenecks in shipping-receiving quickly disappear, and dock traffic starts rolling rapidly and efficiently.

With Magliner dock boards you get more output from your loading equipment. Power trucks, floor trucks and other equipment do a full day's work because Magliners are custom-engineered to meet the exact requirements of your dock . . . your equipment . . . *plus* any special conditions which may affect your loading operation.

Magliner dock boards protect your loads and equipment against costly damage . . . insure greater safety for your men. Made of light, strong magnesium, they're easily handled by one man! No heavy lifting or risk of injury.

You owe it to yourself to find out how you can reduce costs *across the board*—*across a Magliner dock board!* Write for the facts today.



*In Canada, Magline of Canada, Limited, Renfrew, Ontario.*

fects on retail trade may be expected to continue.

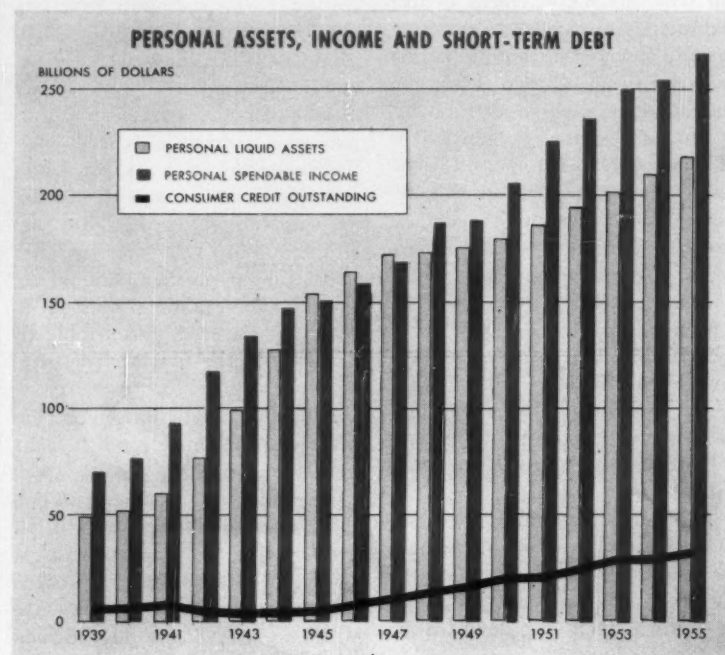
Retail counters continued to be unusually busy last month, according to week-by-week spot checks in 66 cities. The total dollar volume of retail trade probably reached \$16.1 billion, a new peak for October and about 10 per cent higher than a year ago.

Year-to-year gains in retail trade widened in recent months. During the first eight months of 1955, retail

\$4 billion in September, there were mounting signs of a possible future downturn.

Building permits, which run a few months ahead of actual construction, dropped in September and were 1 per cent below the level of a year ago, according to data gathered by DUN & BRADSTREET in 217 cities.

This was the first time in fourteen months that building permits did not exceed the year-ago level.



*While high-level income enabled consumers to increase both their spending and their savings in the first nine months of 1955, they continued to pile up short-term debts. It would take something over 12 per cent of consumers' 1955 spendable income to pay off the consumer credit, as compared with 11.8 per cent in 1954 and 10.2 per cent in 1939. Savings and consumer credit data from the Federal Reserve Board, income from Commerce Department.*

sales volume was 8 per cent larger than in the comparable 1954 period. In September, retailers sold 13 per cent more than they did a year before. Sales of cars were up 30 per cent from September 1954.

Merchants in most sections seem confident that this will be the most prosperous Christmas shopping season on record. December sales may be about \$19 billion, thus bringing the total for the entire year to the unprecedented level of about \$182 billion (Compass Point 24, page 14).

### The Construction Outlook

Although new construction—as measured by the value of work put in place—rose to a new peak of

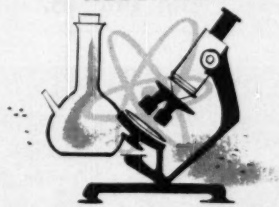
Contract awards for future residential construction, as gathered by the F. W. Dodge Corporation in 37 States, also declined and were below the year-ago level for the first time since December 1953. However, contracts for total construction continued well above the year-ago level for the seventeenth consecutive month.

Residential construction is generally expected to decline about 10 per cent to about 1.2 million housing starts in 1956. However, this decline is expected to be offset by rises in highway, school, and industrial building, so that total construction next year may top 1955 by about 5 per cent, thus setting another new record in one of the most dynamic areas in the economy.



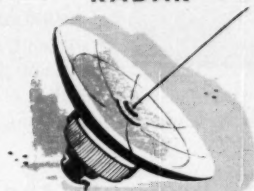
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#### MISSILE



Guidance and Control System, Test Equipment.

# Farnsworth

## INFRARED VIEWER

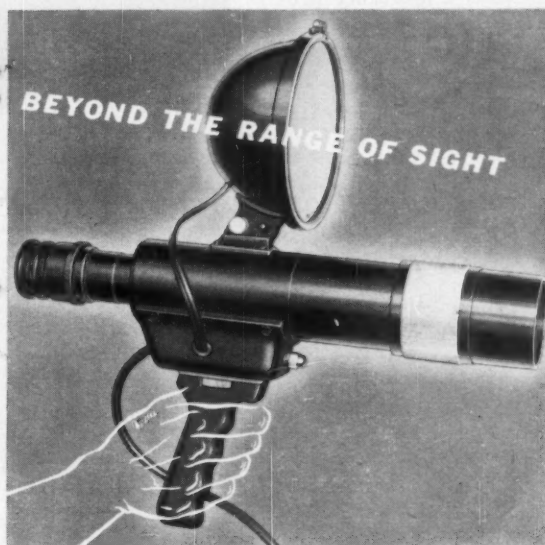
*Lets you see in the dark!*

#### Another Farnsworth Achievement!

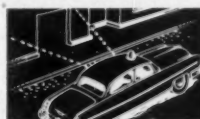
A natural by-product of Farnsworth's outstanding work in the field of infrared.

Using techniques originally developed for the military, this handy Viewer has proved equally useful in civilian life, wherever there is a need to see in the dark.

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BEYOND THE RANGE OF SIGHT



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The name backed by more than a quarter century of development of television and the allied electronic arts. Pioneers in the production of special purpose tubes, in the guided missile field, in infrared, and many other electronic specialties.

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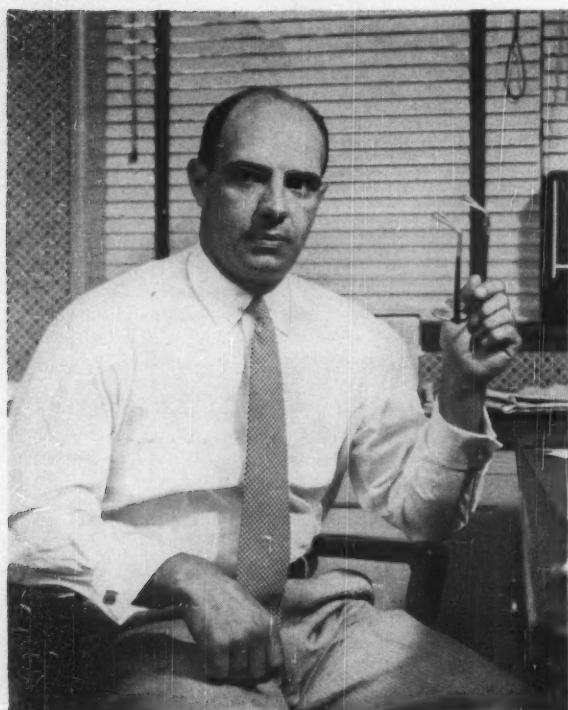
# How the busy businessman can buy insurance like a 'specialist'

How to keep fully insured and not pay too much for this protection is the concern of many companies. Large organizations frequently have an insurance buyer on the staff, the 'specialist' who spends his time keeping his company's insurance program up-to-the-minute.

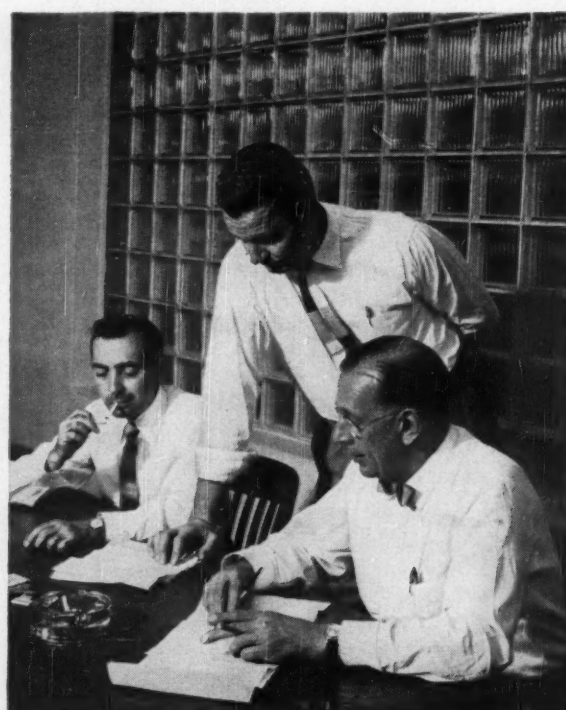


In smaller companies the treasurer, purchasing agent or even the boss himself may have to double on insurance-buying. This busy company, even lacking an insurance manager, can get 'specialist' advantages similar to those of the big fellow, resulting in astute insurance-buying.

*Under North America's RISK-COST CONTROL program the agent  
and these experts bring an insurance 'specialist' into the picture*



**THE AGENT** The agent, or broker, is an independent businessman. He knows from experience that the best way to make a living, and build a reputation, is to get his policyholder the 'best buy'—exactly the coverage that's needed at lowest cost. The big-company buyer also asks the agent for this kind of help in rounding out his program.



**THE MEN WHO HELP:** From North America headquarters a Fieldman, an Underwriter and a TR (Technical Representative) talk over an insured's risk picture. The Fieldman may help the agent survey a risk, obtain exact specifications or draw up an insurance program. Other experts help on underwriting, claims, loss prevention.



## PEOPLE & PLACES

*Scenes from the North America album showing how policyholders get world-wide insurance service with nearby control, complete confidence and low cost.*

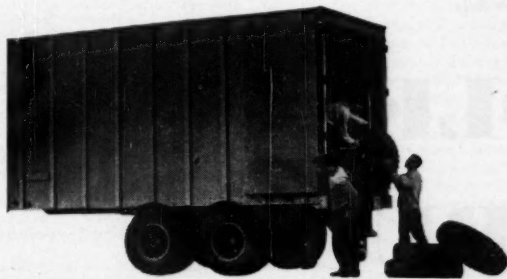


**FACILITIES ABROAD** This is Hong Kong, where North America maintains an office, one of 24 service offices abroad. North America is licensed to do business in 36 countries outside the U.S. This is important to the policyholder, who deals with only one insurance company on all properties, shipments, claims, adjustments, details, etc.

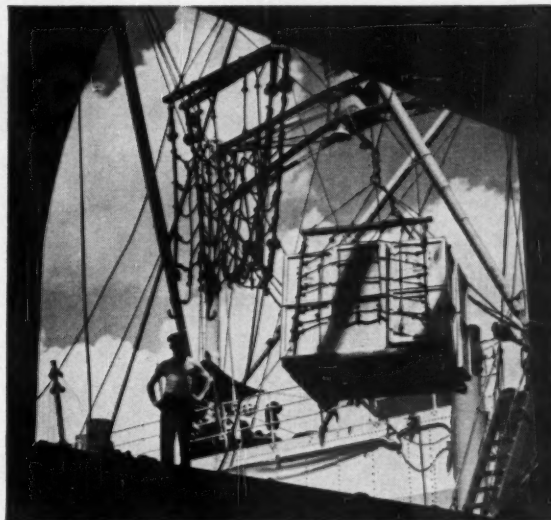


**WHO'S LIABLE HERE?** The nature of his operations often exposes a manufacturer to accidents and claims beyond the scope of ordinary liability coverage. North America's Blanket Liability Policy is tailored to the insured's specialized needs and covers every essential liability exposure to loss, ordinary or extraordinary.

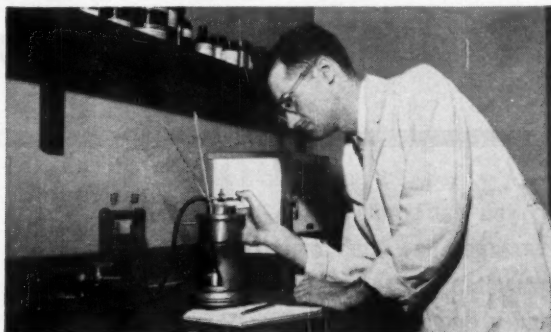
**PRODUCTS AWAY FROM HOME** A manufacturer in Chicago ships goods on consignment and gets broad protection under North America's Manufacturer's Output Policy. It covers not only raw products going to plant, but finished products (like tires in the picture below) leaving plant—while in transit, in warehouses—and all property away from home.



MODERN INDUSTRY



**PROTECTED CARGO** Many marine losses are caused by poor packing and incorrect marking for shipment. When an exporter in Louisville decided to move a whole plant to the Far East, North America had the experience and the shipping knowledge to give the company valuable advice on how to prepare goods for shipment so the cargo would arrive intact and safe.



**AN OUNCE OF PREVENTION** Losses from fire, accidents and other hazards keep premiums up. North America maintains trained corps of specialists who show how to prevent accidents and losses before they happen. This puts the personnel and facilities of a large insurance organization practically on the policyholder's staff.

Talk over the advantages of buying insurance like a specialist with an agent of the North America Companies or your broker.

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NOVEMBER 1955

• 23



## Anything Less is an Old-Fashioned Truck!

If you don't get all the modern advantages new Chevrolet trucks offer, you stand to lose money on the job today and at trade-in time tomorrow

Look at it this way. The more modern the truck, the more quickly and efficiently it does the job. And if it's loaded with ultra-modern features, you're bound to be farther ahead at trade-in time. Now look at the way Chevrolet fills the bill. Even so-called new trucks are old fashioned without all these Task-Force advantages!

Shortest stroke V8's\* of any leading truck—the most modern truck engines money can buy! Their compact, short-stroke design means longer life, because of less friction and wear. Chevrolet's extra-rugged and

dependable high-compression valve-in-head Sixes are ultra economical to keep humming. They squeeze more power out of a tankful of gas!

The latest in cab comfort and safety—High-Level ventilation, panoramic windshield, concealed Safety Steps—features that boost driver efficiency!

Most modern chassis features—new suspension, more rigid ladder-type frames, Power Brakes standard equipment on 2-ton jobs!

Work styling—Here's heavy-duty styling that's matched to the job; modern styling that calls attention to your business! Your Chevrolet dealer has complete details. See him soon. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

\*V8 standard in L.C.F. models, an extra-cost option in all others except Forward-Control models.

# NEW CHEVROLET **Task-Force** TRUCKS





# Business Failures . . .

FOLLOWING the usual pattern at this time of year, business failures declined 7 per cent in September to 822, the lowest level in a year. However, casualties edged slightly above the year-ago level and were more numerous than in any September since pre-war 1940.

The rate of failure, as reflected in DUN'S FAILURE INDEX, rose slightly to 43.6 casualties for each 10,000 enterprises listed in the DUN & BRADSTREET Reference Book. This rate compares with 41.6 in August 1955. A year ago, 44 of each 10,000 enterprises failed, and in 1940, the rate was at 65.

The liabilities involved in September's failures declined 8 per cent to \$33,120,000; this was below the September level in the two preceding years. The smaller casualties, those involving less than \$25,000, were wholly responsible for the month's decline. In fact, failures involving \$5,000 to \$25,000 were the fewest since December 1953. Contrastingly, failures involving liabilities of more than \$100,000 were 16 per cent more numerous than a year ago, higher than in any other months this year, except May and June.

More businesses failed than last year in all of the major industry groups, except wholesaling and retailing. Mortality among manufacturers rose mildly with most of the increase in the textiles and apparel, and the lumber and furniture industries.

There was a 27 per cent increase from a year ago in failures in the commercial service industry, while construction casualties climbed 30 per cent.

Seven of the nine major geographic regions reported a downturn in failures between August and September. The Middle Atlantic and South Atlantic states had the fewest casualties in a year, while the toll in the Pacific states dropped to a two-year low.

Failures were fewer than a year ago in five of the nine regions; the declines were mild except in the Mountain states.

The failure pattern was about the same in the metropolitan districts and the remainder of the country. The toll in the twenty-five largest cities remained slightly above a year ago due to upturns from 1954 in New York, Philadelphia, Detroit, Boston, and Houston.

FAILURES BY DIVISIONS OF INDUSTRY

(Current liabilities in millions of dollars)	Number 9 Months 1955	Liabilities 9 Months 1954	Number 9 Months 1955	Liabilities 9 Months 1954
MINING, MANUFACTURING...	1635	1710	120.9	138.1
Mining—Coal, Oil, Misc...	41	36	3.5	7.8
Food and Kindred Products...	120	131	11.8	13.9
Textile Products, Apparel...	376	408	18.2	21.9
Lumber, Lumber Products...	239	247	10.0	12.0
Paper, Printing, Publishing...	80	98	3.0	8.1
Chemicals, Allied Products...	39	61	3.0	4.8
Leather, Leather Products...	69	78	4.1	5.5
Stone, Clay, Glass Products...	38	42	1.6	1.2
Iron, Steel and Products...	89	87	10.3	9.0
Machinery...	216	225	31.9	34.7
Transportation Equipment...	38	40	3.8	4.7
Miscellaneous...	290	257	19.8	14.7
WHOLESALE TRADE...	891	857	39.3	41.6
Food and Farm Products...	220	219	9.9	10.5
Apparel...	49	37	1.8	1.0
Dry Goods...	39	49	1.3	2.2
Lumber, Bldg. Mats, Hdwre...	101	84	5.2	3.9
Chemicals and Drugs...	28	32	0.9	0.6
Motor Vehicles, Equipment...	54	44	1.3	1.6
Miscellaneous...	400	392	18.9	21.7
RETAIL TRADE...	4036	4174	88.6	114.7
Food and Liquor...	785	740	13.1	10.6
General Merchandise...	146	141	4.3	6.1
Apparel and Accessories...	658	629	13.0	12.2
Furniture, Furnishings...	561	731	16.4	37.1
Lumber, Bldg. Mats, Hdwre...	230	231	6.6	6.7
Automotive Group...	392	459	8.9	17.6
Eating, Drinking Places...	733	737	15.3	14.2
Drug Stores...	96	119	2.1	2.6
Miscellaneous...	435	387	8.8	7.5
CONSTRUCTION...	999	956	57.4	39.3
General Bldg. Contractors...	320	337	28.3	20.6
Building Subcontractors...	624	579	22.3	16.6
Other Contractors...	55	40	6.8	2.1
COMMERCIAL SERVICE...	636	668	24.0	24.8
TOTAL UNITED STATES...	8197	8365	330.2	358.5

Liabilities are rounded to the nearest million; they do not necessarily add to totals.

THE FAILURE RECORD

	Sept. 1955	Aug. 1955	Sept. 1954	P.C. Chg.
DUN'S FAILURE INDEX*	37.5	37.4	37.5	0
Unadjusted...	37.5	37.4	37.5	0
Adjusted, seasonally	43.6	41.6	44.1	-1
NUMBER OF FAILURES	822	888	819	+0.4
NUMBER BY SIZE OF DEBT				
Under \$5,000...	129	157	121	+7
\$5,000-\$25,000...	388	431	400	-3
\$25,000-\$100,000...	227	223	231	-2
\$100,000 and over...	78	77	67	+16
NUMBER BY INDUSTRY GROUPS				
Manufacturing...	168	158	153	+10
Wholesale Trade...	99	107	113	-12
Retail Trade...	366	430	406	-10
Construction...	114	134	88	+30
Commercial Service	75	59	59	+27
(LIABILITIES in thousands)				
CURRENT...	\$33,120	\$36,028	\$36,381	-9
TOTAL...	33,348	36,425	37,757	-12

\*Apparent annual failures per 10,000 listed enterprises, formerly called DUN'S INSOLVENCY INDEX.  
†Per cent change, September 1955 from September 1954.

BUSINESS FAILURES include those businesses that ceased operations following assignment or bankruptcy; ceased with loss to creditors after such actions as execution, foreclosure, or attachment; voluntarily withdrew leaving unpaid obligations; were involved in court actions such as receivership, reorganization, or arrangement; or voluntarily compromised with creditors out of court.

CURRENT LIABILITIES, as used in The Failure Record, have a special meaning; they include all accounts and notes payable and all obligations, whether in secured form or not, known to be held by banks, officers, affiliated companies, supplying companies, or the Government. They do not include long-term, publicly held obligations. Offsetting assets are not taken into account.

EXPERIENCE has proved that COMMERCIAL CREDIT is usually able to provide considerably more cash than is available from other sources. Important also is the fact that COMMERCIAL CREDIT provides funds continuously (if needed) without negotiations for renewals.

Our method is *quick*, with funds usually available within 3 to 5 days, no matter where the user is located in the U.S. It is *simple*, functions automatically without interfering with ownership or management. It is *reasonable* in cost, as there are no preliminary expenses, no long-term fixed commitments, and our one charge is a tax deductible expense.

## Whether your business needs twenty-five thousand or five million dollars, get in touch with Commercial Credit

Knowledge of our method may make it possible for you to take advantage of business opportunities that might otherwise be missed. For additional facts, write or phone the nearest COMMERCIAL CREDIT CORPORATION office below. Just say, "I'd like more information about the plan described in *Dun's Review & Modern Industry*."

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LOS ANGELES 14—722 S. Spring St. NEW YORK 17—100 E. 42nd St.  
SAN FRANCISCO 6—112 Pine St.

A Service Available Through Subsidiaries of

### COMMERCIAL CREDIT COMPANY

Capital and Surplus Over \$180,000,000



*"People often are hoggish about paper towels"*

**W**ITHOUT realizing it they'll use from two to four single fold towels just for drying.

—wasting as much as 40 inches of paper toweling.

But you can control this waste.

*With savings up to 40%!*

How?

*By installing WESTROLL TOWELS in West Micromatic Cabinets\*.*

**P**EOPLE quickly unroll as little or as much as they want. But without realizing it they take less. Averaging 17 inches of soft, absorbent WESTROLL.

Saves janitors' time, too.

—one filling of the tamper-proof cabinet equals four of a single fold towel dispenser.

—there's less litter to clean up.

And washrooms are cleaner, neater.

**L**ET a West representative tell you more about WESTROLL's washroom economies. Just write. Or telephone your local West office.

*\*Cabinets are loaned.*

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#### FREE FOLDER

Use your business letterhead to request our folder on cutting towel costs with WESTROLL.

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Long Island City 1, N. Y.



## VOICE OF INDUSTRY

*The "fourth dimension" of economy; motions of merchandise; executives of the future; business loan survey; what customers want.*

#### Protecting the free economy



"... stimulate and preserve these factors. . ."

#### CLIFFORD F. HOOD

*President, U. S. Steel Corporation, before National Security Industrial Association, New York.*

In economic phraseology . . . there is a factor called "the fourth dimension of economics" which applies to the degree of confidence, incentive, and initiative which national economic policies make possible. It is in this area of the "fourth dimension" that our nation has an immeasurable advantage. Personally, I do not believe that any totalitarian system can maintain for a protracted period high standards of efficiency and high rates of productivity.

Sound economic progress is possible only through the incentives and advantages offered by a free economy—incentives in terms of living conditions, the advantages of thrift and investment, and freedom of opportunity. Such factors build confidence and supply initiative. They are the intangibles of this so-called "fourth dimension," and the lifeblood of our economy.

The challenge to your organization, to industry, and to every citizen of this land, is to stimulate and preserve these factors. In matters of national security, as in matters of national progress, the right things will not just happen. They must be caused.

If American industry is to continue as the most potent ultimate force in the world, then a better job will have to be done in pro-

tecting its inherent characteristics of investment, competition, service, and profit. In area after area, economic as well as moral strength has been vitiated by reluctance to stand up for what was known to be right. How many citizens can say they have not at one time or another sacrificed principles in the face of what they thought was public opinion?

#### Keep merchandise on the move



"... planning must start at the consumption end. . ."

#### CHARLES G. MORTIMER

*President, General Foods Corporation, before National Industrial Conference Board, New York.*

If merchandise is to be moved, the marketing function must be enlisted, in the form of forceful advertising and persuasive salesmanship, implemented with all the ingenious inducements and techniques that resourceful marketing people can bring to bear . . .

These motions may take place in advertising agencies, in company advertising or sales departments, in radio or television studios, in magazine or newspaper pressrooms, where ideas are set in motion to attract the consumer to the merchandise by making known its merits and availability. Or in buyers' offices, where persuasive ideas are applied by salesmen of the producer to the end of moving his company's merchandise into wholesaler's warehouse and onto dealers' shelves. . . .

In the light of this key concept,

*Continued on page 31*



**CUTLER-HAMMER SALUTES  
THE PACE-SETTING NEW  
DIEHL MOULDER**



**The New Diehl 12" Moulder**

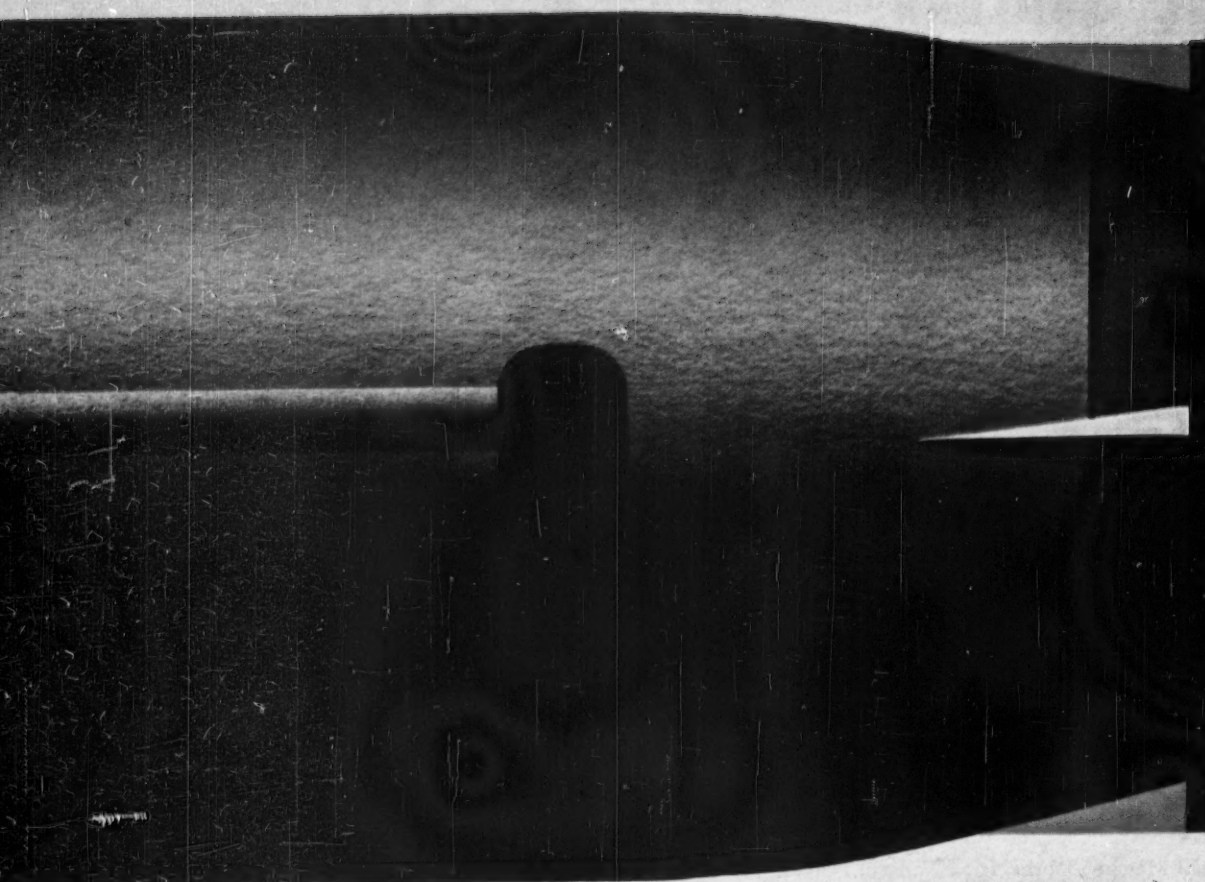
The G. M. Diehl Machine Works, Inc., Wabash, Indiana has long been recognized as a leading manufacturer of dependable woodworking machinery. Dependability is important in woodworking machinery. The service is rugged. The conditions under which woodworking machines operate impose many problems not found in other industries.

Cutler-Hammer is proud to salute this fine company for its well-earned reputation . . . and for its latest achievement in advanced engineering, the new Diehl 12" Moulder.

Typical of the leadership shown in the design of the new Diehl 12" Moulder is the motor control used. Cutler-Hammer Three-Star Motor Control is featured. More than twenty such components are standard equipment on the compact control panel of each machine. All pushbuttons for control of the machine's functions are the new Cutler-Hammer Heavy Duty Oil-Tight Pushbuttons. By all comparisons, this is the finest electrical equipment available . . . the natural choice wherever precise performance and dependability are basic design objectives. CUTLER-HAMMER, Inc., 1436 St. Paul Avenue, Milwaukee 1, Wisconsin. Associate: Canadian Cutler-Hammer, Ltd., Toronto, Ontario.

Cutler-Hammer Three-Star Motor Control is featured. More than twenty such components are standard equipment on the compact control panel of each machine. All pushbuttons for control of the machine's functions are the new Cutler-Hammer Heavy Duty Oil-Tight Pushbuttons.





*Giusti*

**ENGINEERS WANTED:**

For top-flight men, Lycoming offers unusual opportunities to explore new scientific frontiers that lead to outstanding and rewarding careers. Write to Vice President, Industrial Relations, Stratford, Conn.

**Lycoming**



# Lycoming harnesses the hot breath of a new era

Now, in the lungs of Lycoming's advanced gas turbines developed for the Military—the jet turbine principle finds new usefulness, this time for helicopters. Employing broad knowledge and bold thinking in aerodynamics, thermodynamics, and metallurgy, scientists of Avco's Lycoming Division have achieved in the T 53 gas turbine important design advantages: dramatic compactness (never before has 800 H. P. been housed in so little space), versatility in installation and operating characteristics, high efficiency, ruggedness, long life, and low production cost. The T 53, developed in close cooperation with the U. S. Air Force and U. S. Army Transportation Corps for helicopter use, also broadens the benefits of turbine power to fixed wing aircraft and many other mobile and stationary applications. Through advanced turbines—as well as improved reciprocating engines, better components, finer precision parts—Lycoming translates research into practical realities for defense, for peace.

*The turbine era is here. A broad variety of future non-military applications for gas turbines awaits the ingenuity of industry. If your plans are in any way linked to power—turbine or reciprocating—now is the time to look to Lycoming! Write on your letterhead to Lycoming, Stratford, Conn. Ask for T-53 booklet.*

FOR A COPY OF THIS QUISTI ILLUSTRATION, SUITABLE FOR FRAMING, WRITE TO PUBLIC RELATIONS DEPT., LYCOMING, STRATFORD, CONN.

**avco** DEFENSE AND INDUSTRIAL PRODUCTS

MANUFACTURING CORPORATION

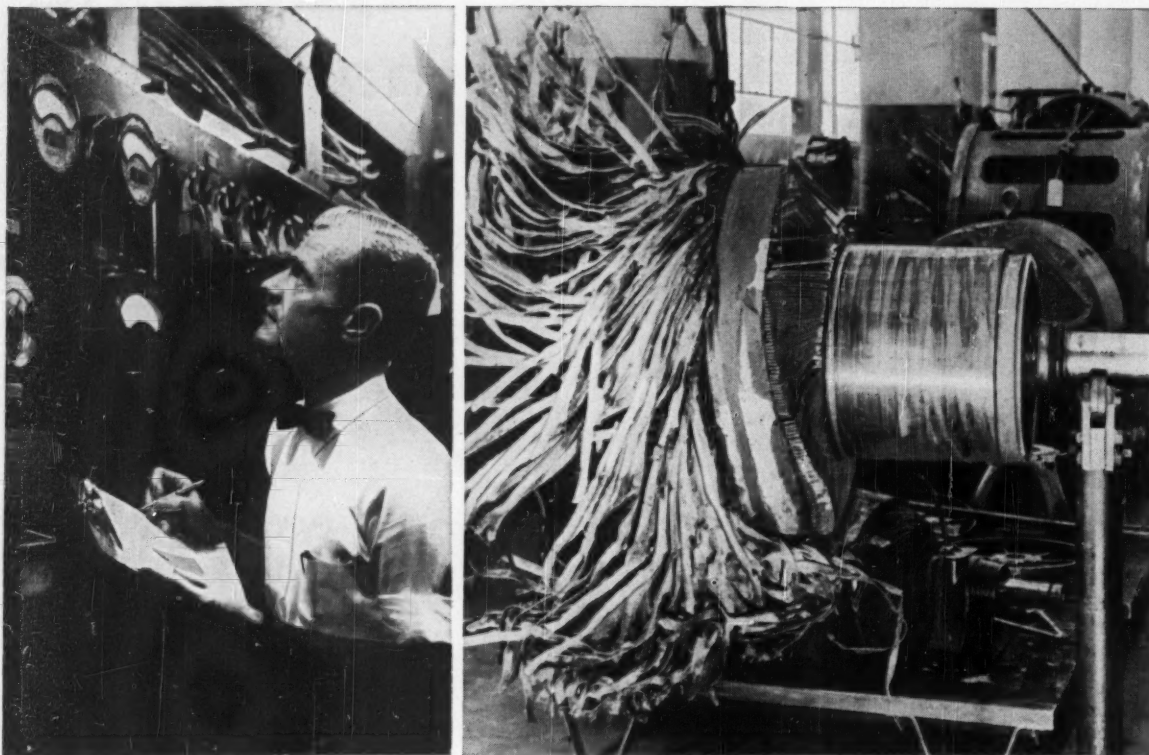
POWER PLANTS  
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TODAY'S MILITARY SERVICES, WITH THEIR TREMENDOUS TECHNOLOGICAL ADVANCES MADE POSSIBLE THROUGH SCIENCE, OFFER A VITAL REWARDING CAREER



*Look what can happen while you're reading this page . . .*

## Not a dollar lost if you have Valued Form Business Interruption insurance . . . with The Travelers

**J**UST as you'd expect, Travelers Boiler and Machinery Direct Damage insurance foots the bill for repairing or replacing damaged plant equipment. But often that's only *part* of your financial loss.

That's why you also need Travelers Valued Form Business Interruption insurance—to make certain your business won't suffer from forced shutdowns.

Valued Form Business Interruption insurance is based on your estimate of average expenses and profits, and here's how it works:

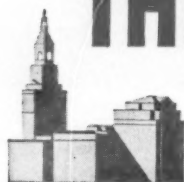
When a breakdown or shutdown occurs, the policy formula determines the percentage reduction from normal business.

The Travelers will immediately pay the indicated loss without the usual accounting verifications of other kinds of Use and Occupancy insurance.

Result: your income has not been impaired, you're still in business and glad you followed the advice of your Travelers representative.

Why not see him today?

YOU WILL BE  
WELL SERVED BY



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*All forms of personal and business insurance  
including • Life • Accident • Group •  
Automobile • Casualty • Fire*



it seems almost necessary to adopt a hybrid term—"production-marketing-distribution"—to explain and picture the complete process with which we are concerned. Thus pictured, an extremely important fact begins to emerge about today's revolution in what the uninitiated think of as "marketing."

A few years back, the sales department took the product from production and assumed responsibility for selling and delivering it. To-day most products start, not merely with raw materials, but with a broad service-to-the-consumer concept, which is carried through a continuous stream of operations involving production, marketing, and distribution, accumulating utility and value at various points along the way, until finally it reaches the ultimate consumer.

The important fact for all of us to realize is that in to-day's keenly competitive atmosphere, our thinking and planning must start at the consumption end of the stream of motions, rather than at the production end. To-day's successful product or service is likely to start as a consumer-use specification.

### Machines cannot replace leaders



"... superior ability to handle qualitative factors. . ."

**HARLEE BRANCH, JR.**

*President, Edison Electric Institute and Georgia Power Company, before EEL Industrial Relations Round Table Conference, Chicago.*

The decisive factor in selecting executives in the future will be more and more the breadth and depth of executive judgment, the superior ability to handle qualitative rather than quantitative factors, and the capacity to inspire and lead others in truly creative endeavors. The growing need for breadth as against specialization has brought about a surprising degree of agreement on the need for more emphasis upon the liberal arts in college training. The study of the humanities, of literature, art, and philosophy is startlingly more perti-



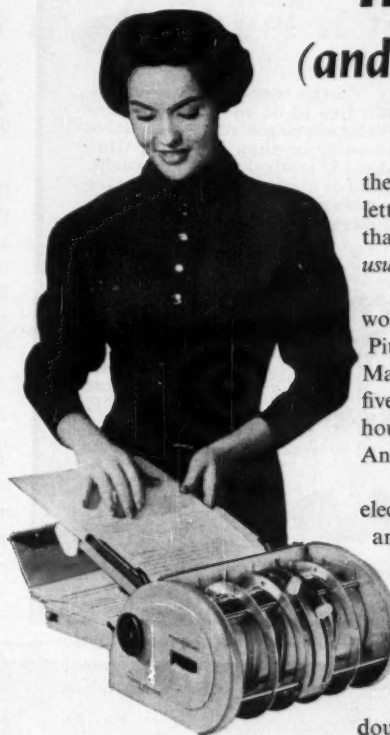
## SHIP IN CARTONS?

Here's a way to address them that puts less modern methods to shame. Inexpensive, paper stencil is cut on a typewriter—separately or as by-product of shipping paperwork. It's then attached to small handprinter to imprint addresses directly on containers within "label frames" that have been preprinted on the cartons by the carton manufacturer. Fast, clean, very inexpensive. Write for full details on the Weber Direct-To-Container Addressing System.

# Weber

Weber Marking Systems  
Div. of Weber Addressing Machine Co.  
Dept. 3K  
Mount Prospect, Illinois  
Phone: CLearbrook 3-2405

## Does the job nobody likes (and at big savings!)



Costs less than a typewriter!

The job in an office nobody likes is the tedious chore of *folding* the form letters, bulletins, mail enclosures, etc., that have to be sent out. *And usually at the end of a busy day!*

But why have your skilled office workers waste time this way? A Pitney-Bowes model FH Folding Machine will do the work more than five times faster—save many payroll hours—pay for itself very quickly. And it *costs less* than a typewriter!

With semi-automatic feed and electrically driven, the FH is easy for anyone to use. (Automatic feed optional at slight extra cost). It takes only a few seconds to set the FH for any job; simply move two knobs to adjust for any desired fold. As easy as tuning your TV! It can make two folds at once; double-fold 8½x11 sheets *up to 5,000 per hour*; make eight different folds in sheets from 3x3 up to 8½x14 inches, of many different paper weights and finishes; and even folds sheets when stapled together.

Precision built, sturdy but light in weight, the FH can easily be carried from place to place, takes up little space.

Call the Pitney-Bowes office listed in your 'phone book for a demonstration. Or send the coupon for free illustrated booklet.

## PITNEY-BOWES Folding Machines

Made by Pitney-Bowes, Inc. . . . originators of the postage meter . . . 94 branch offices, with service in 259 cities in U.S. and Canada.

Fully automatic model FM folds up to 19,000 sheets per hour.



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1506 Walnut St.,  
Stamford, Conn.

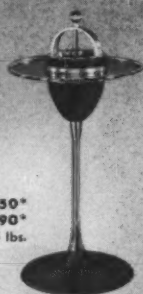
Send free booklet on Folding Machine to:

Name \_\_\_\_\_  
Firm \_\_\_\_\_  
Address \_\_\_\_\_

For the most select names  
on your Christmas list...

## CLIMAX CLUB SMOKERS

STANLEY De Luxe...\$69.50\*  
With Tray.....\$78.90\*  
Shipping wt. 25 lbs.



To the friends for whom you would like to do something "extra special"—there is no gift more distinctive or more welcome than a Climax Club Smoker. It is ideal for office, yacht, library, patio or game room... Everyone accustomed to fine things instantly recognizes the high quality of these luxurious smoking stands and appreciates their superb convenience.

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nent and practical to-day than some of the advocates of purely vocational preparation have been willing to concede. . . .

As more and more of our work is taken over by machines, there is a growing realization that the executives who run our companies and who cannot be replaced by machines must be men of broad vision rather than of narrow specialization. Machines have marvelous abilities to count, to compute, to measure, to exercise routine judgment, and to regulate processes. But machines, ingenious as they are, will never be able to sense the unspoken disappointments of our customers, the unsatisfied aspirations of our employees, or the unfulfilled desires of the general public. They will never be able to erect social, economical, and political standards to which the wise and honest can repair. They will never be able to instill faith, courage, and hope in others by the example and inspiration of their own conduct. For such tasks we still need—perhaps more than ever before—men of the highest degree of humanity.

### Avoiding inflation and deflation



"The problem of insuring growth without inflation. . . ."

#### C. CANBY BALDERSTON

Vice Chairman, Board of Governors,  
Federal Reserve System, before American Bankers Association, Chicago.

The credit and monetary authorities must furnish the reserves needed by the commercial banks to finance the economy at a high level of resource utilization without contributing either to inflation or deflation. The cost and availability of credit must guide the savings of the economy into constructive activities; the quantity of credit must reflect a rate of growth in the active money supply that is in keeping with the habits of the population in maintaining cash balances and with the growth in available resources.

The problem of insuring growth without inflation involves a correct appraisal of the future rate of

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booklet tells  
you

Now available—  
our Manual of Record Storage Practice with Retention Periods for general business and banks. It tells a simplified story of record procedure and an easy-to-do storage plan for inactive records. **A VALUABLE GUIDE FOR EVERY BUSINESS.** For your **FREE** copy, clip this ad to your letter-head and mail to:

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Truck users! You will be pleased with our all-service truckleasing. America's leading firms utilize the efficiency of our specialized facilities. Forget your problems of replacement, breakdowns, repairs, insurance, licenses, paper-work, road calls, tied-up capital and extras. Know your costs in advance. Let us engineer your fleet to fit your exact needs.

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# “I got along all these years without intercom... why should I get it now?”

**T**hat's a fair question. Before we try to answer it, we'd like to ask *you* one: What do you *really* know about intercom?

Sure, you've heard that it “saves time and money” (what business product doesn't?) but unless you've had first-hand experience with intercom, you can't be expected to know the things it does for a business. Here are a few that apply to almost every business. Why not take a minute and see where they apply to yours.



When people leave their work to exchange information, costly working time is lost *daily*. With Executone Intercom your people stay at their work and get more done. At the touch of a button any employee is in instant, voice-to-voice contact with any office, department, or plant area.

When your phone lines are busy with inter-office calls, customers are frequently left “holding the line.” These delays are annoying and lose good will. With Executone, inside calls never go through the switchboard. Phones are open for important outside calls. And with a reduced work load, your operator gives better, faster service.



When customers phone for information you don't have to say, “I'll check and call back.” With Executone you get the information while you're on

the outside call. No bothersome call-backs that add a sizeable chunk to your phone bill.



When an employee is needed in a hurry, do you waste time running through offices, or have your switchboard operator phoning and annoying others? With Executone you simply press a button and your man is paged and on the phone or in your office in seconds.

In addition to these *general* examples, Executone gives you many other *individual* uses that apply specifically to your business.



Executone *alone* provides engineering and service personnel in your area to (1) survey and plan your individual system, without charge (2) instruct your people thoroughly in its efficient use (3) provide fast, competent service *on your premises* as needed. Executone's nationwide service organization assures years of profitable use from the most advanced, most dependable, most versatile communication system you can buy!

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...safely, again and again, on  
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you can trust

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expansion that the economy can sustain. This appraisal needs to be made with as much precision as prophecy of future happenings will permit.

To be in a position to make the maximum contribution to stable economic growth, the Federal Reserve finds it necessary to keep informed on developments in all segments of the economy. This involves gathering and analyzing current data on credit, production, and prices. It also involves keeping alert to longer range structural developments in banking and in the economy generally. That is a major reason why the Federal Reserve is conducting a business loan survey this year.

*Sell the result  
not the means*



**WILLIAM E. RUTZ**

Executive Vice-President, Giddings & Lewis Machine Tool Company, before General Electric Sales Group, Chicago.

What the customer wants is *money saved*. What he wants is increased productivity that can be reflected in increased profits. All of our improvements in machine tool models, and all of our improvements in motors and electronic controls, are designed . . . for this purpose.

Therefore, in our selling, let's be sure that we stress the end result—which is more production and money saved—instead of stressing the technical and mechanical means by which this objective is accomplished.

The finest technical improvement in any machine tool, control panel, or motor is of no consequence to the potential buyer unless it results in money saved.

Therefore, I say what we have for sale is increased productivity and savings in manufacturing costs.

We can explain the technical ways and means whereby this is accomplished; but they are secondary. The primary interest of the customer is not means but *money*.

# No. 1 in 50,000 Firms

*Because It Outlasts  
Ordinary Brushes  
3 to 1*



27 Speed Sweep styles and sizes to meet every sweeping need. Write for prices today.



**MILWAUKEE DUSTLESS BRUSH CO.**  
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## 1 Numbering Machine 10 Jobs go Faster . . .



**FORCE  
150**

Automatic, all-purpose numbering machine speeds up dozens of everyday jobs in office or plant. (Provides consecutive, duplicate or repeat numbering.) See your dealer or let us send our catalog "How to Select a Numbering Machine."

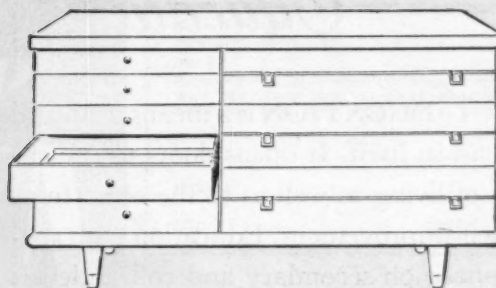
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**New idea  
helps Sears  
make sales...**



**HERE'S AN IDEA** that's helping to sell Sears' "Caravan" furniture — tough drawer liners vacuum-formed from extruded sheets of **BAKELITE** Brand High-Impact Styrene.

Their rounded corners and glossy surfaces make cleaning easy. Just wipe with a cloth or, for a thorough washing, remove the liners instantly. Note that their finish safeguards delicate fabrics. Their color complements the wood of the drawers.

Low cost marks this trayful of selling points. Vacuum-forming is a fast, economical production method, and **BAKELITE** High-Impact Styrene TGD-5001 was developed especially for it. Sheets of this material do not lose gloss during forming. No extra finishing operations are needed. A range of attractive colors is available.

For your new product designs be certain to investigate **BAKELITE** High-Impact Styrenes. Write today to Dept. LW-42.



Drawer liners for  
**Sears, Roebuck and Co.**,  
"Caravan" furniture  
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Panelyte Division,  
**St. Regis Paper Co.**,  
Chicago 41, Ill.



**BAKELITE COMPANY**, A Division of Union Carbide and Carbon Corporation **UCC** 30 East 42nd Street, New York 17, N. Y.  
The term **BAKELITE** and the Trefoil Symbol are registered trade-marks of **UCC**

# Education and Business

EDUCATION is a means to an end not an end in itself. It opens doors to the enjoyment of living as well as to the opportunities for self-improvement. Education with special emphasis on secondary and college levels enables the youth of the country to appraise his surroundings, to understand the scope and limitations of Government, and the responsibilities and rewards that belong to citizenship where no door is closed to talent, and all a young man or woman needs is the intelligence and energy to turn the knob.

Education is everybody's business, but the task of maintaining a high level of literacy on which a community is judged rests primarily on the shoulders of the business leader. He serves on school boards, on educational advisory committees, on alumni drives. He is interested in the quality of education first as a citizen, and second as a business man with a major interest in providing adequate financial support to the schools. He is willing to pay for better buildings, better teaching methods, and better paid teaching staffs. He favors free and unhampered inquiry on any subject of politi-

cal and economic interest, and looks with confidence to both educator and student for a fair attitude toward the competitive system.

Out of our schools at various levels come the craftsmen, the farmers, the tradesmen, the clerks, the professional men, and the independent business men, all of whom risk their time, money, skill, ideas, and energy for the benefit of their neighbors.

It is obvious that the business man and educator have this in common—to help our school system produce graduates who are well-informed and independent thinkers. Toward this end, business men are striving, asking only that the functions of industry and trade be discussed in a proper perspective to the whole economic and social scheme in our tradition of freedom of action and decision.

Education provides light, and traditional misunderstandings are quickly erased when business men and educators sit down to a problem and talk it out to a point of mutual understanding. Here is where the business man should take the initiative and not be deterred by modesty or an evasion of responsibility.

## *The Editors*

Last month's editorial, "Down the Coronary Trail," pointed out the difficult course that the executive must follow and the need to pace his effort over that course. It has been suggested by someone, after reading the editorial, that this is one instance when the wise executive can appropriately put the heart before the course.

Again this month we include the quarterly report of business men's expectations concerning the future of their own business. These surveys have

been conducted periodically since 1947 and experience has proven them to be generally accurate indicators of the direction of movement of business.

They were initiated in response to a request from the Joint Committee on the Economic Report. Their purpose is to provide a prompt answer to the question, "What do business men expect in their own companies during the calendar quarter ahead?"

While there are many factors that affect the economy of the nation, one of the important elements not usually

considered in forecasting is the attitude of business men toward the future. There is no intention here to suggest that this is the one most important element, but it is certainly one that every business man should include in his forward thinking.

The information does not pretend to be a statistically precise forecast or an accurate estimate of future business levels. It does measure the current business pulse and has generally been found to foreshadow the direction of the economic movement.



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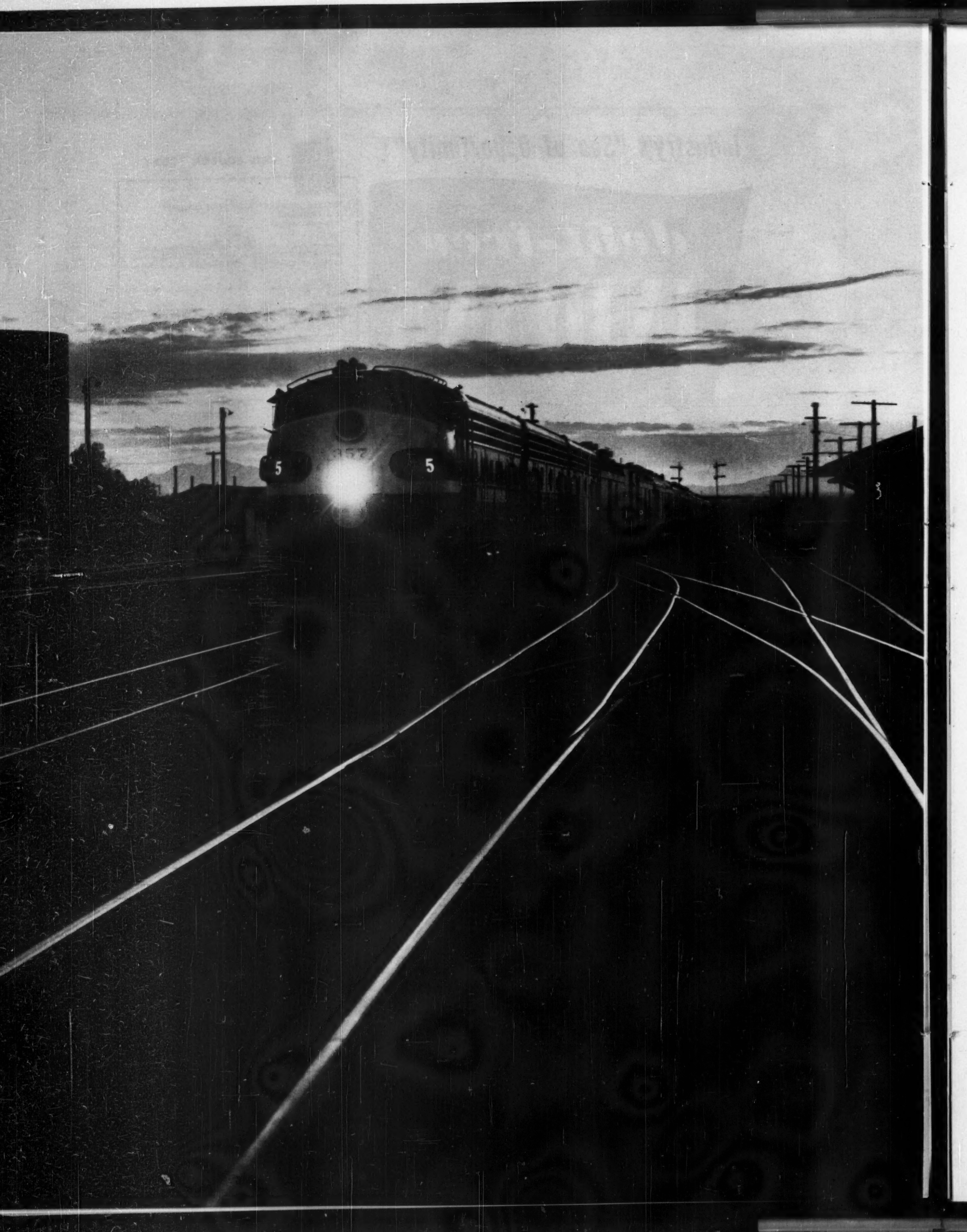
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*No schools can promise presidencies; no management training can guarantee to turn out leaders; no development programs can assure a steady stream of executives. All they can do is help the man who wants to help himself. For such men there are a number of do-it-yourself suggestions.*

## AIMING FOR THE TOP

WILLIAM B. GIVEN, JR.

*Chairman of the Board  
American Brake Shoe Company*

THERE HAVE been endless articles and speeches exploring the problems of developing management abilities in others. Many of them have been very good and definitely helpful. But maybe we need to do more thinking and talking about *self-help* in developing executive ability. There are limits to what the company can do to help an ambitious young man, but there are practically no limits to what he can do to help himself. Also, what he teaches himself—what he does to “pull himself up by his bootstraps”—can make the difference as to whether or not he becomes a success.

Let me make my point in another way: The infantry manual of World War I included six steps in teaching men to handle a rifle effectively. These steps were the important ones in learning how to hit the target. But reading the manual was not nearly enough. There must have been many men who wanted to ask, as I did, “Why memorize the terms in the book if I can’t understand them?” So, I got the help of an old Lieutenant Colonel. For example, under his eye I practised getting my elbow in the hollow of my knee when taking aim, “shaking hands” with the trigger instead of jerking it, and the other

steps. I found—as countless others have found—that such knowledge was what made the difference. What happened after learning the manual, in other words, was up to the man.

The top successes in management are usually not born leaders, but men who learned leadership. James Lowell once said, “Intellectual growth is a process of self-education under guidance.” I think the same thing could be said of business leadership. The elements of it are too subtle and difficult to be got from manuals or training programs.

This article is written with the purpose of offering, out of years of business experience, some helpful suggestions to young men who want to learn how to “shoot” better for top executive positions. My concern is not so much with what they should learn as with *how* they can learn and practise it; and it is not so much with book knowledge as with the problem of personal development so that the book knowledge can be applied effectively.

Do not be surprised if some of the things that will be said here about self-help methods, human relations, popularity, and attitudes sound like hefesy. Some of the things I learned under the

old Lieutenant Colonel were not in the book either!

When a child needs arithmetic, he is sent to a teacher. That is accepted by everyone. But when a young man wants to learn how to manage, it is not generally accepted that he should go to others—his boss, for instance—for help. There seems to be some sort of myth that this would be an admission of weakness. Actually, just the opposite is the case.

I know that it is not easy at first. Conceits are often a stumbling block. Our reaction to the promotion of another is often a defensive, rather than an inquiring, “What has he got that I haven’t?” Another stumbling block is fear that the boss’ opinion of us will go down. But if the young executive can somehow get himself over these mental hurdles, if he can bring himself freely to seek advice and criticism from others, he will almost inevitably find his opportunities for success greater.

Here, in a nutshell, is one of the “secrets” of success in management. There are witnesses to it in every successful company. But it is so obvious that people scoff at it—or maybe they just cannot see past their conceits and inferiority complexes.

Who needs help and how can he tell? The answer to that is easy. Every one of us needs it. If you have any doubt, in that doubt is proof that you need it more than most anyone you know. If you fear your boss' reaction, you are being just plain dumb. They love to be sought out.

### Where To Begin

You ask, what should I do? How should I start? It is not much of a problem, really—although sometimes I think we make a problem out of it in order to find an excuse for not doing it. You say to your boss, or write: "I would like to talk with you about me. When you are free for lunch, or any other time, preferably away from the office, I would like your advice as to my performance in this job. It has me down a bit. I think I could do better, but I'm not sure how."

If that boss is not busting to give you the time and the best help he can, you would be surprised at how many of his superiors would enjoy being the first to fire him. I am sure I speak for many, many companies besides our own. Our sorest need in industry today is for good managers—and we know it.

When you have a talk with your boss, how can you make the most out of it?

In the first place, he cannot help successfully unless he can be frank with you. So recognize the need for frankness; indicate that you expect it from him. Maybe what he says will hurt your feelings; if so, conceal them. Ask for a discussion of each point. And remember, few men would frankly make such points unless they had a real interest in you.

As all of us know, congeniality is important if two men are to get together in this way. But this idea of congeniality is often understood in much too narrow a sense. A boss can scold and criticize, and yet, in my opinion, be congenial. The important quality of congeniality is not momentary good feelings, but empathy—sympathy. Also, congeniality is a two-way street, the junior must try to understand and sympathize with the boss, as well as the other way around. He may think the boss is a "stinker," but that should not keep him from recognizing that the boss is trying to help. One of the best executives I know turns his juniors down on ideas as much as anyone, probably, but he succeeds in maintaining a feeling with them of long-range mutuality. He works hard to *help them understand* his viewpoint. He is a teacher, in other words—and they appreciate it.

The desire to get even with somebody who has painfully punctured our hide is common to most of us. I am probably as good an example of it as anybody. College, my first job, and the army brought me very painful experiences. But after a few years I realized that there was not, as I had thought, any personal animosity on the part of my deflators. They were conscientiously trying to teach me, not expressing their dislike.

So if your boss is frank with you, be glad. And

if he kids you about a weakness, see if he isn't trying to make a good point. A promising young executive of ours came into the company as a metallurgist with a real "Irish temper" and a record of some success in impressing privates and sergeants with it in the Army. When he was given the job of running the experimental foundry, he was told that he didn't have to "lick everybody" in the shop to run it properly. He took quite a kidding from the research head about losing his temper. "But I gradually got the idea of what they were trying to get through my thick skull," he admits now. "As a matter of fact, I don't think I have lost my temper now more than once in the last couple of months!"

### Getting to Know You

A good boss will often try to loosen the conversation up by confessing a few hard experiences of his own or telling a pertinent story. One of his prides—or conceits, if you will—is knowing people. (He may not understand them as well as he thinks, but at least he will be less likely to have unjustified opinions of them with that attitude.) The thing that he will be most anxious to find out about you, behind all his questions and talk, is what kind of a person you are—how you get along, how you react, what your interests are, and so forth. And if he happens to like you a lot, he may tend—like anyone else would—to try to be too considerate, not frank enough. In that case, you will not get as much help from him as you should. Watch out for the boss who favors you!

This business of reaching out for personal help may seem more natural—and it is certainly more important—in view of the importance of team play in business. Now, all of us know how vital team play is in football. Yet few people seem to realize how much it has to do with successful business operations. There seems to be a common conception, spread perhaps by fiction writers and playwrights, that a corporation is a one- or two-man show. The fact is that this is hardly ever the case. In past years the "mastermind" in business may have been more common, but he certainly is a rarity now. The young man who wants to advance toward the top nowadays will do much better if he proves his ability as a team player. If he is any good at it, his enjoyment in business will be greatly increased too.

What does "team play" in business mean? Let me use an illustration from one of the letters I got recently when we wrote twelve of our important people ranging from sales managers to vice-presidents asking for examples of mistakes which still "make their faces red." Briefly, the executive in question found himself joining forces, not so long ago, with a trade association to sell a department of the Federal Government on a point of view that would have saved the taxpayer money, he was convinced, and also benefited our industry. He had very good connections in the department and he was confident that he could carry the ball alone well enough for our company. He did, and he also presented

our case persuasively—but not well enough, apparently, for the decision went against our industry. Had he taken his problem to a senior, he confessed in his letter, he would have discovered that the latter knew one of the top men in the department directly involved. With the senior's assistance, the decision might have gone quite differently.

This is a very common example of the need for team play. The need arises in different ways, of course, and at all levels of management, from top to bottom. In every problem we deal with in business every day, there is someone who is better equipped in some way than we are to find the right solution. There are endless ways of improving the things we are doing. Remember that. Remember to draw as often as you can on the full facilities of the organization.

### The Delegation Problem

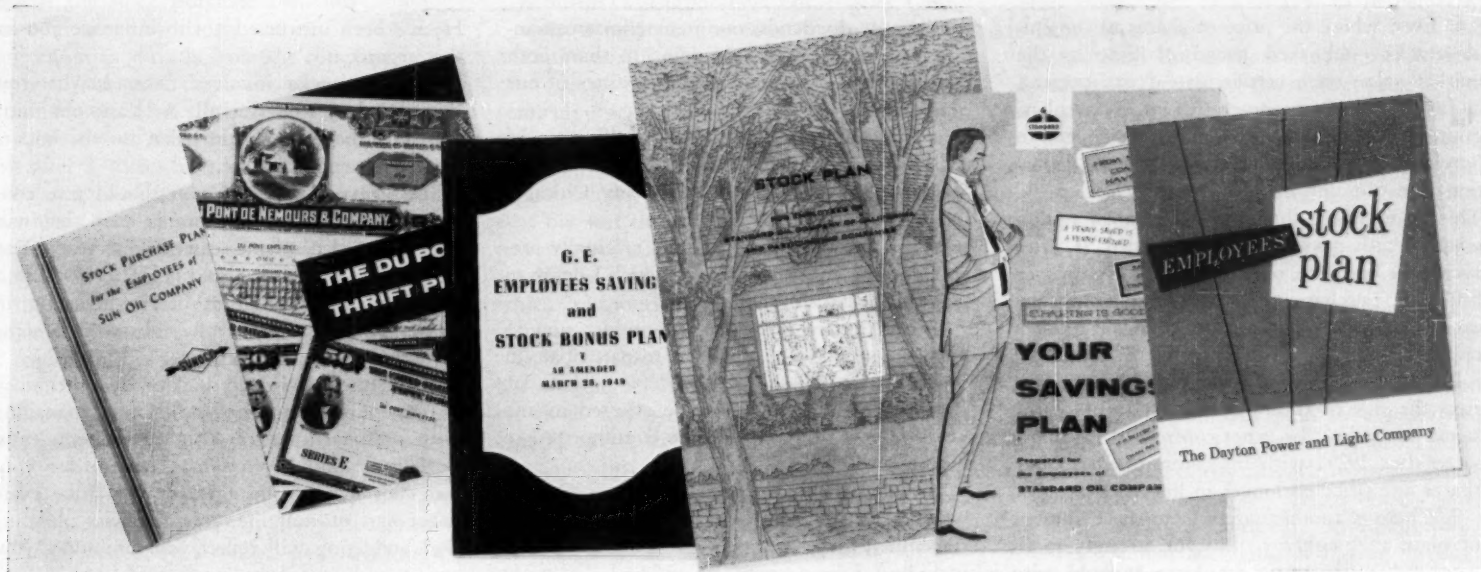
Everything said above has added importance because of the delegation problem. There is a natural disposition among many managers to avoid delegating authority. Perhaps this tendency would not be so pronounced if juniors came more often to their seniors for advice. The more a senior feels he is "rubbing off" on an assistant, the more confidence he is likely to have in him.

This unwillingness to delegate is a bad enough problem from the viewpoint of the company heads, but it is possibly even more serious from a young man's point of view. I am thinking, for instance, of one of our former sales managers who was extremely loathe to let his men develop under their own steam. He let them make relatively unimportant customer calls, but whenever a head railroad official was to be visited, the sales manager was the one who made the call, did the talking, and came to any decisions. The day came when that sales manager was transferred. Who got the promotion to his job? His senior salesman? No. How could management give the job to him when he had never had a chance to demonstrate his effectiveness? Somebody had to be brought in.

Benjamin Disraeli is reputed to have remarked, "Every man has a right to be conceited until he is successful." Most of the successful business executives I know became painfully conscious, as they climbed the ladder, of having an excess of conceits. Every one of them, looking back, remembers incidents which are still embarrassing—most of them concerning their relations with people. My point is that conceits may be a good thing—not a bad thing, as we usually hear—at least for young business men. The question is, what *kinds* of conceits do we have? Are we conceited about our vital interests in people, about our ability to play on a team, about our ability to delegate (all useful conceits)—or about our perfection, our ability to carry the ball without help (bad conceits)? Most young men need more confidence in the former areas. Few of them have nearly enough. They can build it with the help of their wives, their friends, their

*Continued on page 60*





## Limiting the Risks in Employee Stock Plans

*Methods of presenting plans, share-purchase provisions, company contributions, even limited-period, no-loss guarantees are among safeguards of to-day's programs.*

ALFRED G. LARKE

*Employer Relations Editor*

"ONE MORE gift like that and I'll be bankrupt," said the man who won an elephant on a TV quiz show and found he had to pay income tax on the beast as well as feed it.

His sentiments were very much like those of thousands of industrial workers who were given a chance, in the 1920's, to get rich quick by buying their companies' stocks—and found themselves holding an empty bag in the 1930's. Even if they still had jobs, their thoughts about their employers were not always benevolent.

The sharp one-day market dip last September may have made some observers wonder if another mass disillusionment were due for this decade's new crop of employee-shareowners (see *Employees Buy Into the Company*, August 1955, page 42).

The fact is, however, that corporations this time, learning from the experience of the 1930's, have surrounded their stock offerings to employees—or have built right into the plans—a wide variety of safeguards against such a kick-back.

In most cases (specific examples will be given), these safeguards were deliberate. In others, they are the result of legal necessities or are inherent in the way the plans are set up. The motive may be to give employees the experience of being owners, but the devices used to persuade them result directly in more safety.

Here are some of the means by which companies, in their current plans, seek to offset the effects of future fluctuations in the market:

1. Some companies go so far in warning employees about the risk of declining stock prices that they appear almost to discourage participation. This is particularly true in instances where a prospectus of the offering must be filed with the Securities Exchange Commission.

Take care of your housing needs first, such companies advise; see that you have enough insurance for your family; accumulate some liquid savings for emergencies; put aside savings in something like Government bonds for your old age—then, if you have money available, buy stock in your company as a hedge against inflation.

2. Other companies, establishing employee savings or thrift plans, make it almost impossible for an employee to have any complaint, no matter what happens to the value of his shares. They donate shares of stock, as an incentive to saving, in some fixed ratio to the amount the employee puts into Government "E" bonds or into savings accounts. The stock, costing nothing, is all velvet to the employee, no matter how high or low it may range on the market. Others put in a quarter, half, or more of the cost of the shares, providing a wide margin for decline.

3. Similarly, some managements hitch employee stock-ownership plans to profit-sharing

programs. Even if the value of the stocks later declines, it is no worse for the employee than the occurrence of a less profitable year; no part of his wages or savings is invested in the shares.

4. Common to many programs is sale of hitherto unissued stock at a set margin below the market (the company may issue it at 85 per cent of the going value and still have it considered by the Internal Revenue Bureau as tax-deductible).

5. Some plans provide for regular, periodic purchases at the market-price on each purchase date; or for issuance of the shares by the company at a price based on the average of market prices over a long period.

These plans provide, in effect, what is known as "dollar cost averaging." A set amount of money is paid at, for instance, the end of each month for 24 or 36 months, for however many shares that amount will buy. When prices are high, comparatively few shares are bought; when prices are low, many more shares are bought. Thus, even though dividends decline with share prices, total earnings for each periodic purchase tend to remain the same.

It can be demonstrated that "dollar cost averaging" is more profitable to the purchaser than the kind of averaging that is achieved by purchasing a set number of shares at regular periods. The "dollar-cost-averaged" purchases therefore cut down the chance that the employee will lose on the transactions.

6. Even where the price of shares to the employees is established ahead of time as the market value on a certain date (past, present, or future), or a percentage thereof, many plans grant the employee the right to decide not to purchase after he has saved, by payroll deduction, the amount necessary to buy the stock. This is in effect the same as a stock option scheme, with payroll deduction added. If, after saving for one, two, or three years, the employee finds the purchase price unfavorable, he may exercise the option to have his savings refunded, or perhaps put into Government "E" bonds.

If the employee decides to purchase, he still runs the risk of future decline in value of the stock, but at least he is not confronted (as many were after 1929) with his commitment to buy shares at a price no longer in line with value.

7. There is another safety factor in a number of plans that either require, or strongly motivate, the participating employee to hold onto his stock savings until retirement or near it. Such requirements or incentives usually if not always have another purpose than cushioning the employee against loss due to periodic breaks in the market. Since they do, however, encourage long holding of shares, and prices are more likely to average out over a long period than in a short term, the effect tends to protect the employee against loss and the company against morale-disturbing employee disillusionment.

Here's how these points are expressed in typical programs:

1. Warning of the risk involved in stock purchases:

In a letter from the president of Food Machinery and Chemical Corporation, San Jose, Calif., when a stock purchase plan was offered in 1951, employees were told:

"While we sincerely hope that in this additional way employees of FMC can participate in the growth and prosperity of our company, we feel it necessary to point out that many outside factors often affect stock market prices.

"There is no way to be sure that the price trend will continue upward, or at what price our stock may sell one year or more from to-day. Although there can be no guarantee of prices,

earnings or dividends, our joint efforts can increase our chances of continuing to share both the work opportunities and the earnings of our company."

In announcing the continuation, this year, of a plan launched in 1954, Willis Gale, chairman of Commonwealth Edison Company, Chicago, Ill., said this to employees:

"As stated when the Plan was originally presented, there are several things which I desire to make unmistakably clear.

"First, we are not trying to induce you to buy Edison stock. If you wish to participate in the Plan, we will be glad to have you do so. But your standing will not be affected in any way by your decision. No one is authorized to urge you to participate.

"Second, when you are making up your mind whether or not to buy Edison shares, you must remember that the prices of common stocks, including Edison stock, go up and down. At times the declines may be drastic.

"Third, once you have purchased Edison shares, they will be yours. The Company will not buy them back from you at any time.

### "Get Outside Advice"

"Fourth, we recognize, and you should not hesitate to face the fact, that not all employees are in a position to take the risk that goes with the ownership of common stock. Some of you may wish to seek competent outside investment advice."

Gale's advice is printed at the head of the prospectus for the Commonwealth Edison plan. Importance of the employee's reading the official prospectus is stressed by Dow Chemical Company, Midland, Mich. In a personal letter, and in the employee publication, employees are reminded they must obtain a copy of the prospectus before subscribing for shares.

Inland Steel Company, Chicago, Ill., was among the most specific, in this advice from a booklet on its 1955 stock option plan:

"If you still have any questions about the Plan, do not hesitate to ask your immediate supervisor about them. But please do not ask him for advice on whether or not you should participate.

He has been instructed not to influence you in that regard. . . .

"Buying stocks involves risks. Maybe you shouldn't buy stocks at all. At least, not until you have made ample provision for the important requirements of life.

"Before you buy stock you should give consideration to a family insurance plan that will afford your dependents reasonable security. And it's possible that you should begin to establish a home financing program before investing in stocks. And it's always advisable to have some cash reserve for emergencies.

"Investment in Inland stock or any other stock is just one part of the over-all job of managing your personal finances. Your investments must be 'custom-built.' What may be fine for your neighbor may be unsound for you. Like every other part of your life, your financial planning and budgeting will reflect your ambition, your vision, and your thrift."

2. Where shares of stock are company-contributed, in whole or in substantial part:

One of the newer employee thrift plans of this kind is that of E. I. du Pont de Nemours & Company, Wilmington, Del., launched in September.

Du Pont contributes monthly 25 cents for each \$1 its employees save through payroll deduction and purchase of Government "E" bonds. The company contribution is credited to each employee, in proportion to his bond purchases, and is used for purchase of Du Pont common stock.

General Electric Company, Schenectady, N.Y., has an employees' savings and stock bonus plan under which it gives employees GE common stock to the value of 15 per cent of Government "E" bonds which they purchase and leave on deposit with the company for five years.

Some companies make an even larger pro rata contribution to employee savings, but without the Du Pont and GE provisions for putting employee contributions only into Government bonds, and company contributions alone into company stock.

Sun Oil Company, Philadelphia, Pa., lets employees save up to 10 per cent of basic compensation through payroll deduction and adds 50 per cent of such amounts from its own funds. Trus-

## Sun Oil's 29-Year-Old Plan

One of the few employee stock programs that weathered the 1930-1933 depression, the Sun Oil Company's Employees Stock Participation Plan was launched in 1926 and is still going strong. In its 29-year history, employees have paid \$60,500,000 into the plans (which begin annually), and the company has added as its contribution \$30,250,000.

In the 25 plans that have been liquidated so far, employees have received 1,152,921 shares of stock. They now own 20 per cent of all outstanding shares, almost all of it acquired through the annual plans. With their company-boosted savings, they have bought homes, put children through college, assured themselves of comfort and independence in their retirement. At right: employee comments.



Truck Driver Ignatz Janders, Philadelphia: "I find the stock plan is the easiest way of saving I know."



Salesman Andy Graham, Philadelphia: "I'm in the plan because I want to save toward retirement."



tees of the stock purchase plan buy Sun Oil common stock with the money from both sources, either directly from the company or on the open market, if they wish, when the market price is lower. Shares are credited to employees in proportion to their savings and they gain full title after Trustees have held it for five years.

Atlantic Refining Company, Philadelphia, Pa., has a similar program, in which the employee may direct trustees either to buy company stock or hold in cash at interest his share of the company's 50 per cent contribution on a maximum employee contribution of 5 per cent of pay. Employee contributions may be held in cash at interest or used to purchase "E" bonds.

General Motors Corporation, Detroit, Mich., has announced a plan for salaried workers under which it will add 50 per cent to employee savings. The latter—which may run up to 10 per cent of base pay plus cost of living allowance—will be invested by a trustee half in Government bonds, half in GM stock. All of the company contribution is to be invested in stock.

Socony Mobil Oil Company, New York, N.Y., adds 50 per cent to employee savings, letting the employee direct the trustee to buy Government bonds, Socony Mobil common stock, or shares in any of 50 eligible investment companies.

Standard Oil Company (Indiana), Chicago, Ill., similarly gives 50 cents for each \$1 of employee savings. Employee funds may go into "E" bonds or Standard common stock, or be held in cash (without interest) at the employee's discretion. The company's share is invested in its stock. Under one option, stock purchases with either employee or company contributions may be converted into governments bonds or cash.

3. Plans in which company contributes to employee stock purchase on some basis related to its income or profits:

Purulator Products, Inc., Rahway, N.J., this Summer announced a program for employee purchase of Government bonds, company stock, "or other investments," through payroll deductions of up to 5 per cent of pay, plus an annual contribution from the company, equal to 15 per cent of its net income or 50 per cent of the employee savings, whichever is smaller.

Richfield Oil Corporation, Los Angeles, Calif., contributes to its employee stock purchase plan a minimum monthly amount equal to 50 per cent of employee savings (which are invested in company stock). Annually, the company contribution is adjusted to this scale: If company profits are up to but less than 11 per cent of invested capital, 50 per cent contribution; profits 11 per cent but less than 12 per cent, contribution 55 per cent, and so on, up to the point where profits are 15 per cent or more of invested capital, at which contributions level off at 75 per cent of employee savings.

Sears, Roebuck and Company, Chicago, Ill., has a savings and profit sharing pension fund to which employee members contribute 5 per cent of pay up to a maximum of \$500 a year. The company adds amounts based on its consolidated net income: 5 per cent if such income is \$50 million but less than \$100 million, and at an increasing rate up to 10 per cent, if consolidated net income totals \$250 million or more.

### Shares at a Discount

Originally, the funds were invested in Sears, Roebuck stock only, but to-day trustees may invest in other interest-bearing obligations. The trust fund—oldest such plan in the country that is still active—now holds 26 per cent of all the company's outstanding stock.

4. Providing stock at less than market cost:

It is common among companies that provide shares from their own treasury to offer them to employees at some figure lower than the market price, although many others sell to employees at par or at the market price.

Commonwealth Edison Company divides its plan into six-month "payment periods," establishing the selling price at 90 per cent of the stock's closing price on the 15th of the last month in which deductions are made from the employee's pay check.

Dayton Power & Light Company, Dayton, Ohio, sells unissued stock at 85 per cent of the average of its closing price on the last trading day in each of twelve months preceding purchase.

Dow Chemical Company has offered employees shares at varying discounts from market

value, from 5 per cent in 1949 to 26 per cent in 1952.

Inland Steel Corporation stock is sold to employees at 90 per cent of the market price at the start of the payroll deduction period.

Minnesota Mining & Manufacturing Company, St. Paul, Minn., has two price levels—for non-executives, "95 per cent of the fair market price" on the day the plan went into effect; for executives, 100 per cent of the price on the day the options are granted.

5. Dollar-cost averaging purchases:

The effect of fluctuating market prices during the period an employee is setting aside money to buy shares is averaged out in the Dayton Power & Light Company plan by a provision that stock will be sold at the average of its price on the last market day of each of twelve consecutive months.

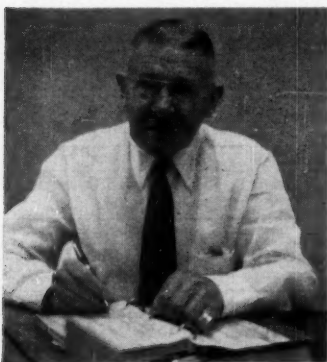
Falstaff Brewing Company, St. Louis, Mo., achieves a similar averaging by having the custodian bank buy shares monthly, immediately upon receiving remittance of payroll deductions from the company. Deductions being in the same amount for an employee from month to month, his savings buy more shares when the market is low than when it is high.

General Electric Company contributes shares only once a year, but prices them at the average for the end of the twelve months past.

Pitney-Bowes, Inc., Stamford, Conn., furnishes unissued or treasury stock at its average market price for the last 30 days, providing that it is not less than 95 per cent of the market price on the day of offering.

Standard Oil Company of California, San Francisco, Calif., provides in its plan for fund trustees to purchase stock privately or on open market, as they see fit, but at no more than the market price on day of purchase. When shares are allocated to employees' accounts once quarterly, the allocation is made on the average price per share that trustees have paid.

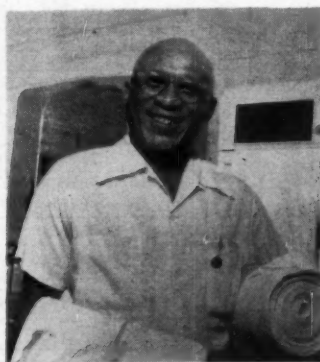
In addition to these measures, those whose plans involve purchase through a brokerage either absorb brokerage fees or save money for employees by charging them at round-lot prices rather than odd-lot.



Cashier T. H. Booth, Marcus Hook, Pa.: "Sun Oil Company stock is a good, secure investment for me."



Secretary Jeanne Hipp, Toledo, O.: "I think that the plan gives us all more interest in the company."



Janitor Frank Butler, Marcus Hook, Pa.: "To me, this stock plan is security for the future."

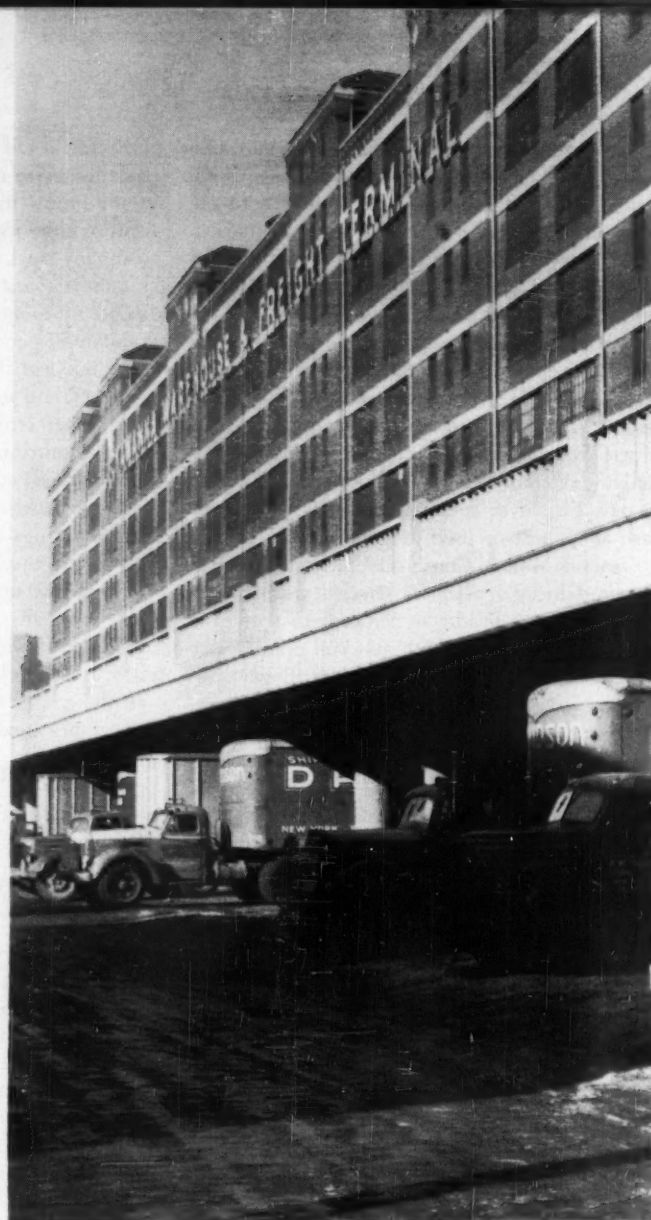


Refinery Worker John Meszaros, Toledo, O.: "You can't find a better investment than this kind."

## Fourteen Important Ratios in 24 Wholesale Lines

*The ratios have been compiled annually since 1931 By Roy A. Foulke, vice president of Dun & Bradstreet, Inc. Similar ratios for retailers were published in the October Dun's Review and Modern Industry; manufacturers' will appear in December.*

*Increased competition and high costs were reflected in the financial ratios for 1954. The ratio of net profits to net sales was lower than in 1953 for eighteen of the wholesale lines. While the average collection period was slightly longer than in the preceding year for most wholesalers, the over-all increase was not appreciable.*



CORSON PHOTOGRAPH FROM DEVANEY

Line of Business Number of Concerns	Current Assets to Current Debt	Net Profits on Net Sales	Net Profits on Tangible Net Worth	Net Profits on Net Working Capital	Net Sales to Tan- gible Net Worth	Net Sales to Net Working Capital	Average Collection Period	Net Sales to Inven- tory	Fixed Assets to Tangible Net Worth	Current Debt to Tangible Net Worth	Total Debt to Tangible Net Worth	Inventory to Net Working Capital	Current Debt to Inventory	Funded Debts to Net Work- ing Capital
	Times	Per Cent	Per Cent	Per Cent	Times	Times	Days	Times	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
FOR 24 WHOLESALE LINES—1954—MEDIAN AND QUANTILES														
Automobile Parts and Accessories (170)	5.69	2.90	9.02	12.81	4.40	5.81	27	6.4	6.2	17.3	41.4	59.5	31.3	6.1
	<b>3.39</b>	<b>1.32</b>	<b>4.16</b>	<b>6.09</b>	<b>3.19</b>	<b>4.41</b>	<b>34</b>	<b>5.2</b>	<b>14.8</b>	<b>31.5</b>	<b>65.5</b>	<b>83.7</b>	<b>54.4</b>	<b>14.4</b>
Butter, Eggs, and Cheese (30)	2.52	0.32	1.14	1.39	2.46	3.16	42	4.0	29.7	49.5	87.3	104.0	72.5	33.8
	3.59	1.03	23.45	25.67	25.69	27.14	10	55.6	8.5	21.5	34.1	43.8	70.3	33.1
Cigars, Cigarettes, and Tobacco (81)	2.02	<b>0.67</b>	<b>6.29</b>	<b>8.53</b>	<b>13.18</b>	<b>18.62</b>	<b>15</b>	<b>26.1</b>	<b>18.2</b>	<b>69.9</b>	<b>134.7</b>	<b>64.7</b>	<b>124.5</b>	<b>70.4</b>
	1.73	0.16	2.17	2.94	6.25	11.15	18	12.6	36.5	120.8	218.4	141.5	164.9	104.5
Confectionery (25)	4.27	0.84	8.84	13.48	18.96	24.54	12	24.9	7.0	23.5	12.9	54.9	59.7	3.7
	<b>2.39</b>	<b>0.47</b>	<b>6.28</b>	<b>8.13</b>	<b>11.65</b>	<b>15.75</b>	<b>16</b>	<b>20.3</b>	<b>13.3</b>	<b>55.5</b>	<b>66.6</b>	<b>76.4</b>	<b>94.4</b>	<b>29.5</b>
Dry Goods (154)	1.66	0.20	2.65	2.68	7.37	10.95	18	16.8	26.2	107.6	167.1	108.3	138.1	37.1
	5.67	2.78	16.97	22.70	10.21	13.24	13	23.0	6.6	16.3	20.9	40.9	39.4	12.7
Electrical Parts and Supplies (124)	<b>3.51</b>	<b>1.82</b>	<b>8.88</b>	<b>12.38</b>	<b>6.73</b>	<b>9.21</b>	<b>23</b>	<b>15.3</b>	<b>13.5</b>	<b>29.2</b>	<b>44.6</b>	<b>58.4</b>	<b>83.0</b>	<b>33.2</b>
	2.25	0.37	3.98	4.57	5.09	5.28	39	8.4	35.3	47.7	133.7	91.0	109.5	72.3
Automobile Parts and Accessories (170)	3.19	3.25	13.76	17.21	6.68	8.17	19	8.1	5.2	33.9	44.5	71.8	50.7	4.0
	<b>2.60</b>	<b>1.78</b>	<b>9.12</b>	<b>10.84</b>	<b>4.68</b>	<b>6.18</b>	<b>32</b>	<b>7.0</b>	<b>10.7</b>	<b>54.1</b>	<b>64.0</b>	<b>88.0</b>	<b>67.0</b>	<b>20.5</b>
Butter, Eggs, and Cheese (30)	2.09	1.29	6.27	6.38	3.61	4.03	39	5.5	20.3	73.7	99.1	109.3	88.1	33.4
	6.57	2.51	9.05	9.71	5.12	6.35	39	7.9	2.5	12.6	38.8	44.3	32.5	5.7
Cigars, Cigarettes, and Tobacco (81)	<b>3.30</b>	<b>0.69</b>	<b>2.69</b>	<b>3.77</b>	<b>3.58</b>	<b>4.35</b>	<b>45</b>	<b>6.4</b>	<b>4.4</b>	<b>34.7</b>	<b>52.1</b>	<b>66.8</b>	<b>62.2</b>	<b>17.8</b>
	2.39	0.08	0.28	0.32	2.70	3.15	61	4.6	11.5	59.2	82.3	92.3	90.4	28.7
Confectionery (25)	3.56	2.36	10.60	13.49	6.78	8.44	30	10.9	5.3	32.9	48.3	60.6	60.6	5.6
	<b>2.57</b>	<b>1.16</b>	<b>6.14</b>	<b>7.12</b>	<b>4.84</b>	<b>5.94</b>	<b>37</b>	<b>7.8</b>	<b>12.9</b>	<b>55.9</b>	<b>80.1</b>	<b>80.5</b>	<b>83.9</b>	<b>12.8</b>
	1.88	0.56	3.11	3.65	3.64	4.88	46	5.8	22.8	87.1	114.2	108.1	117.6	23.4

† Loss



# 14 important ratios

IN 24  
WHOLE-  
SALE  
LINES

Line of Business Number of Concerns	Current Assets to Current Debt Times	Net Profits on Net Sales Per Cent	Net Profits on Tangible Net Worth Per Cent	Net Profits on Net Working Capital Per Cent	Net Sales to Tan- gible Net Worth Times	Net Sales to Net Working Capital Times	Average Collection Period Days	Net Sales to Inven- tory Times	Fixed Assets to Tangible Net Worth Per Cent	Current Debt to Tangible Net Worth Per Cent	Total Debt to Tangible Net Worth Per Cent	Inventory to Net Working Capital Per Cent	Current Debt to Inventory Per Cent	Funded Debts to Net Work- ing Capital Per Cent
FOR 24 WHOLESALE LINES—1954—MEDIAN AND QUARTILES														
Fruits and Produce, Fresh (50)	8.64 <b>4.31</b> 2.47	2.77 <b>0.91</b> 0.51	21.88 <b>8.82</b> 5.00	41.92 <b>13.90</b> 6.25	12.22 <b>9.79</b> 7.44	20.71 <b>18.04</b> 10.70	11 <b>14</b> 23	105.8 <b>60.7</b> 21.9	9.8 <b>21.5</b> 36.4	8.6 <b>16.2</b> 39.2	16.5 <b>26.3</b> 68.3	13.5 <b>22.6</b> 51.9	63.7 <b>137.3</b> 236.8	9.3 <b>32.5</b> 97.2
Furnishings, Men's (29)	6.17 <b>3.34</b> 2.35	8.84 <b>4.73</b> 0.31	21.30 <b>12.90</b> 1.24	27.65 <b>18.34</b> 1.31	3.62 <b>2.86</b> 1.88	5.01 <b>3.54</b> 2.95	24 <b>46</b> 72	9.5 <b>6.1</b> 3.9	1.6 <b>4.4</b> 17.4	14.3 <b>30.5</b> 62.0	18.6 <b>41.1</b> 94.9	46.4 <b>67.2</b> 99.7	32.5 <b>56.9</b> 95.7	10.6 <b>30.5</b> 52.5
Gasoline and Lubricating Oil (48)	3.53 <b>2.21</b> 1.63	1.95 <b>1.13</b> 0.51	10.92 <b>4.66</b> 2.10	28.67 <b>10.56</b> 5.09	5.67 <b>4.00</b> 3.47	15.14 <b>8.28</b> 5.39	27 <b>31</b> 38	27.2 <b>13.0</b> 9.1	17.4 <b>33.6</b> 60.9	21.3 <b>36.6</b> 88.2	49.2 <b>80.2</b> 94.5	24.7 <b>53.1</b> 90.2	70.6 <b>125.4</b> 266.0	11.4 <b>38.3</b> 64.6
Groceries (248)	5.38 <b>2.88</b> 2.08	1.59 <b>0.76</b> 0.45	12.54 <b>6.64</b> 3.26	17.40 <b>9.03</b> 4.10	12.27 <b>8.04</b> 5.69	17.13 <b>9.58</b> 7.25	12 <b>16</b> 24	13.5 <b>9.5</b> 7.3	6.8 <b>13.5</b> 29.9	18.8 <b>41.9</b> 72.0	54.9 <b>86.0</b> 119.2	70.7 <b>96.6</b> 135.4	28.4 <b>52.8</b> 74.7	12.3 <b>23.1</b> 46.2
Hardware (183)	6.42 <b>3.48</b> 2.40	2.41 <b>1.70</b> 0.99	8.25 <b>5.45</b> 3.54	9.75 <b>6.55</b> 4.48	4.44 <b>3.32</b> 2.45	5.59 <b>3.90</b> 2.97	26 <b>32</b> 42	5.9 <b>4.5</b> 3.5	6.3 <b>15.7</b> 25.4	15.5 <b>31.3</b> 55.9	40.9 <b>64.8</b> 103.9	68.3 <b>87.3</b> 107.1	27.1 <b>44.4</b> 72.3	10.1 <b>18.0</b> 29.9
Hosiery and Underwear (39)	7.62 <b>3.34</b> 2.51	2.30 <b>1.33</b> 0.48	9.64 <b>4.33</b> 1.46	11.02 <b>7.77</b> 1.72	5.08 <b>3.45</b> 2.57	7.09 <b>5.09</b> 2.94	36 <b>40</b> 60	9.0 <b>7.2</b> 5.5	1.0 <b>5.3</b> 12.1	15.3 <b>30.9</b> 53.7	28.9 <b>38.7</b> 94.2	41.1 <b>72.2</b> 81.2	43.7 <b>63.8</b> 90.4	... <b>...</b> ...
Household Appliances, Electrical (105)	3.30 <b>2.17</b> 1.66	1.96 <b>1.14</b> 0.51	11.94 <b>6.84</b> 2.78	13.98 <b>7.30</b> 3.63	9.09 <b>6.35</b> 4.55	10.94 <b>7.74</b> 5.16	32 <b>42</b> 54	10.8 <b>8.5</b> 6.9	4.6 <b>10.1</b> 19.9	36.6 <b>72.3</b> 117.3	46.5 <b>84.6</b> 139.0	62.6 <b>88.0</b> 120.9	62.3 <b>99.5</b> 131.9	5.6 <b>14.2</b> 27.9
Jewelry (40)	4.29 <b>2.66</b> 1.84	3.92 <b>0.60</b> 0.06	4.62 <b>2.28</b> 0.36	19.14 <b>2.67</b> 0.44	8.51 <b>4.68</b> 1.21	9.20 <b>5.47</b> 2.01	10 <b>45</b> 60	14.9 <b>5.5</b> 2.3	2.1 <b>5.1</b> 7.6	29.1 <b>47.7</b> 95.5	44.5 <b>135.0</b> 172.2	58.0 <b>73.8</b> 95.9	43.1 <b>80.9</b> 147.9	2.2 <b>25.6</b> 58.3
Lumber (97)	5.48 <b>2.85</b> 2.00	1.97 <b>0.89</b> 0.38	16.35 <b>4.03</b> 0.56	17.66 <b>8.72</b> 0.85	13.00 <b>5.42</b> 3.48	24.55 <b>8.31</b> 4.69	31 <b>37</b> 50	12.4 <b>8.9</b> 5.4	4.2 <b>11.5</b> 26.4	17.1 <b>37.5</b> 70.6	47.3 <b>73.5</b> 86.7	40.4 <b>71.2</b> 91.7	43.7 <b>80.8</b> 172.3	8.6 <b>20.0</b> 48.4
Lumber and Building Material (83)	4.76 <b>3.25</b> 2.08	2.82 <b>1.60</b> 0.51	12.18 <b>6.53</b> 2.90	16.45 <b>8.66</b> 3.62	8.08 <b>4.62</b> 3.25	9.25 <b>5.79</b> 3.94	29 <b>35</b> 54	9.9 <b>6.9</b> 4.9	9.6 <b>17.5</b> 32.8	18.7 <b>30.0</b> 62.3	30.8 <b>47.6</b> 102.8	52.1 <b>71.9</b> 94.3	40.0 <b>61.2</b> 107.5	4.2 <b>22.9</b> 39.1
Meat and Poultry (39)	4.82 <b>2.06</b> 1.59	0.88 <b>0.44</b> 0.06	9.74 <b>6.98</b> 0.87	15.20 <b>9.88</b> 1.96	20.69 <b>11.99</b> 7.53	36.54 <b>18.28</b> 12.00	11 <b>15</b> 33	58.3 <b>31.9</b> 22.0	12.2 <b>26.5</b> 46.7	16.3 <b>32.4</b> 117.3	35.9 <b>63.6</b> 170.0	31.8 <b>54.0</b> 106.9	81.7 <b>145.7</b> 220.0	12.3 <b>29.4</b> 66.2
Paints, Varnishes, and Lacquers (32)	8.45 <b>3.10</b> 1.97	3.03 <b>2.26</b> 1.10	8.61 <b>6.11</b> 2.55	14.64 <b>6.63</b> 2.96	5.02 <b>3.17</b> 2.24	7.44 <b>4.15</b> 2.71	31 <b>38</b> 47	6.8 <b>5.2</b> 3.5	5.4 <b>14.8</b> 36.3	13.0 <b>33.8</b> 68.1	39.3 <b>70.7</b> 93.0	56.8 <b>82.4</b> 110.7	27.9 <b>65.3</b> 129.1	13.8 <b>24.2</b> 50.9
Paper (127)	4.36 <b>2.92</b> 2.04	1.63 <b>1.09</b> 0.51	7.99 <b>4.84</b> 2.61	11.04 <b>6.16</b> 3.14	6.87 <b>5.15</b> 3.68	10.92 <b>6.45</b> 4.48	27 <b>31</b> 39	11.1 <b>7.5</b> 5.6	6.5 <b>13.4</b> 27.7	23.3 <b>43.1</b> 71.4	57.4 <b>83.2</b> 118.9	54.9 <b>71.8</b> 96.9	48.4 <b>82.4</b> 109.3	8.6 <b>17.5</b> 30.9
Plumbing and Heating Supplies (136)	5.79 <b>3.31</b> 2.10	2.74 <b>1.60</b> 0.74	8.65 <b>5.71</b> 2.48	11.24 <b>7.55</b> 3.08	4.68 <b>3.33</b> 2.65	6.06 <b>4.35</b> 3.31	35 <b>45</b> 56	6.5 <b>5.2</b> 4.1	5.8 <b>14.2</b> 25.2	18.4 <b>32.2</b> 68.1	33.9 <b>55.3</b> 119.9	63.9 <b>79.3</b> 103.6	37.9 <b>52.5</b> 82.7	6.7 <b>14.1</b> 36.5
Shoes, Men's, Women's, and Children's (54)	5.23 <b>2.93</b> 2.00	2.46 <b>0.94</b> 0.49	11.27 <b>4.08</b> 2.12	13.94 <b>4.60</b> 2.17	6.85 <b>4.58</b> 2.78	7.00 <b>5.42</b> 3.39	33 <b>51</b> 27	8.0 <b>5.8</b> 3.8	1.5 <b>4.5</b> 10.2	21.5 <b>36.8</b> 93.9	37.7 <b>75.4</b> 164.7	40.8 <b>62.7</b> 83.3	42.5 <b>91.3</b> 147.5	3.9 <b>13.5</b> 23.4
Wines and Liquors (47)	2.70 <b>2.01</b> 1.50	1.61 <b>0.89</b> 0.50	11.32 <b>5.50</b> 3.15	23.00 <b>8.70</b> 5.94	9.10 <b>6.18</b> 4.99	12.37 <b>9.22</b> 6.68	19 <b>30</b> 41	14.3 <b>8.2</b> 4.9	10.5 <b>18.1</b> 49.1	32.1 <b>73.8</b> 127.1	56.0 <b>82.2</b> 116.0	70.9 <b>105.5</b> 173.4	85.4 <b>106.6</b> 151.6	6.1 <b>29.2</b> 50.3
Womenswear, Coats, Suits, and Dresses (35)	5.17 <b>3.98</b> 2.45	3.66 <b>0.42</b> 0.40†	15.63 <b>1.97</b> 3.02†	25.72 <b>3.04</b> 3.48†	8.69 <b>4.78</b> 1.78	10.47 <b>5.08</b> 2.52	32 <b>41</b> 73	15.5 <b>13.3</b> 5.7	1.8 <b>4.1</b> 12.0	16.7 <b>26.1</b> 63.7	17.5 <b>78.0</b> 160.1	16.6 <b>33.9</b> 67.1	79.1 <b>118.8</b> 199.2	7.1 <b>27.6</b> 83.0
WHOLESALE GROCERS—BY SIZE (TANGIBLE NET WORTH) CLASSES—MEDIAN ONLY														
1954 Under \$200,000	2.87	0.75	8.09	10.16	8.17	8.90	16	9.1	8.9	47.9	106.9	99.5	55.4	31.8
\$200,000-\$500,000	3.00	0.76	6.33	7.99	7.61	11.60	15	9.6	14.1	37.9	86.2	92.9	48.6	19.5
Over \$500,000	2.77	0.75	6.05	8.30	7.04	9.92	15	11.5	23.3	41.3	83.7	90.3	53.6	24.6

† Loss

DEFINITIONS OF TERMS ARE ON PAGE 118

# HOW WILL NEW KEY LEGISLATION



"We recommend strongly that the declaration of policy in the Interstate Commerce Act be rewritten to make it clear that common carriers should have greater freedom, short of unjustly discriminatory practices, to reflect their true economic and service characteristics in competitive pricing." Thus spoke Commerce Secretary Weeks before a House subcommittee as preliminaries for what has been called the most significant changes in national transportation policy in this century went into high gear.

In an area where every segment of industry has much at stake, hardly anyone is neutral. In general, the truck and waterways carriers and some Chambers of Commerce are violently opposed to most of the proposed changes; the railroads and the Commerce Department support them. Industry itself has been noticeably quiet, although the various changes have been a constant topic in professional traffic association meetings for over a year.

The trucking associations maintain that the effect of enabling legislation (bills in the House and the Senate have been submitted) will be cut-throat competition which will drive them out of business and eventually restore a monopoly to the railroads. Proponents of the new policy maintain that current legislation shackles the railroads, preventing them from meeting other forms of competition. Other organizations have charged that the proposed legislation is discriminatory against the small- and medium-sized industrial shipper, that companies located in towns where railroads have no competition from other forms of freight carriers will pay

more comparatively than *their* competitors in large cities served by several types of carriers. The view held by the Commerce Department is that the legislation is necessary because current laws "stifle fair competition . . . and impose wholly unnecessary cost burdens upon the shipper and consumer."

To help clarify these issues for management, the editors recently held an all-day conference in Washington where representatives from shippers, railroads, waterways, and the trucking industry, and the Commerce Department presented the issues as they individually see them. Representing the railroads were Robert Henry, V-P, and Harry J. Breithaupt, Jr., Assistant General Solicitor, of the Association of American Railroads. Walter W. Belson, Asst. to President, and James F. Pinkney, General Counselor, of the American Trucking Association upheld the opinions of that industry. Chester Thompson, President of American Inland Waterways Operators, Inc., represented water carriers. Louis S. Rothschild, Under Secretary for Transportation, and Edward Margolin, Program Co-ordinator, of the Department of Commerce, presented background data for the report. Industrial shippers were represented by Russell G. Bellezza, V-P of General Cable Corporation, and E. F. Hanlon, General Traffic Manager of the Celanese Corporation of America, and D. K. Shoemaker, Assistant Secretary of the National Industrial Traffic League.

The editors thank these gentlemen for their able presentation of their differing points of view. The issues as they see them begin on the facing page.



# AFFECT INDUSTRIAL SHIPPING?

JAMES K. BLAKE  
*Marketing Editor*

*New legislation could change today's pattern of freight rate making, reduce power of the Interstate Commerce Commission, give carriers more leeway to make own rates, make obsolete traditional terms like "value theory of rate making" or "preserve carrier's fair share of the market."*

**Edward Margolin, Program Co-ordinator, Department of Commerce:**

The Advisory Committee Report on transportation is a positive document. Its principal purpose is to bring to this nation a stronger and healthier transportation system—a more economical system.

The standards of our country are predicated on competitive enterprise. This is the *raison d'être* of the business man. Within certain rules, he knows he has got to meet and beat that competition. He feels that in normal instances he can do so, as long as his competition is on a fair business basis.

As the economy has grown, the transportation industry has grown. Many forms of transportation are available to all types of shippers. There are exceptions, of course, but by and large it is a real thing, very much alive.

The Advisory Committee, in examining this situation, came to the conclusion that the regulatory laws do not square with the competitive facts of life. It also discovered that due to certain exemptions in our own laws, due to the growth of private transportation, due to the fact that the regulatory agencies aren't always able to enforce compliance with their laws, that our common carrier industry is gradually weakening. The main consideration was the fact that the interstate elements of our transportation system were constantly experiencing unstable financial conditions. It is difficult to plan financially for technological improvements. This handicaps managerial efficiency.

Without detailing the recommendations them-

selves, they are broadly divided into two categories. One is to take the rate-making provisions of the Interstate Commerce Commission Act and to bring them into conformance with our competitive system. That would mean that there would be an opportunity for each form of transportation to find its right place in our economy. The shipper, in turn, looking at his alternative forms of service, could choose a service more in keeping with the cost and service he required to move his products or goods.

The shipper, secondly, small or large, and particularly those not in a position to provide their own forms of transportation, such as barges, fleets of trucks, would know that he could turn to strong, dependable, common carriers to have his goods transported to final destination with full responsibility by those carriers and with greater dependability of service.

I might add that if we have a strong transportation network in peace-time we know we are that much better off in a national emergency.

**James F. Pinkney, General Counsel, American Trucking Associations, Inc.:**

It is no secret that the trucking industry has been very sharply opposed to this whole thing. As to the position of the American Trucking Association, the Executive Committee voted unanimously against the Report. The issues are the same issues that have been raised time and again throughout the last ten years.

Transportation is not like the retail field. There is limited entry. It is an area where discrimination among products, persons, and areas can creep in very easily. We find that, histor-

ically, the transportation industry had freedom from regulation until the Interstate Commerce Act was passed in 1887.

History will bear us out that the problem then was not monopoly of transportation, as the report suggests; rather, it was cut-throat competition among the carriers. The principle of the original Act was to control competition, to stabilize the freight rate situation so as to prevent unfair competitive practices in industry as between areas and industries and companies. The monopoly that crept in was the monopoly held by large companies who forced the railroads to rebate to hold their business. So in 1906, again in 1912 or 1913, the Act was strengthened to prevent rebating.

In 1920, following the Federal ownership of railroads during the war and to assist them, the Act was changed and the Commission was given rate power, the right to fix precise rates. And this is the great stabilizing instrument that this Report would turn the clock back on. Another purpose was to give some protection to coastal and intercoastal water carriers. Congress had attempted to prohibit the railroads from going into the intercoastal business by lowering rates so that it became impossible for the boat lines to keep in business. And the water carrier industry practically had disappeared because of selective rate cutting.

A similar threat to the railroads was seen in 1930 when the motor industry came of age. It was unregulated except at the state level. The motor carriers were engaged in the good old American style of "dynamic" competition. It

was not good for the railroads and it was not good for the trucklines. Responsible trucking people saw that in the long run an intolerable situation would develop, so in 1935 the Act was amended to bring this type of competition under control. This gave motor vehicle common carriers a more comprehensive system of regulation than had the railroads.

The Act [Interstate Commerce Act] is not obsolete. Major revisions have kept the Act up to date; Part I alone, according to [Interstate Commerce] Commissioner Tugwell has been amended 144 times since its enactment. . . .



**Rothschild, Commerce Dept.:** "If these rates did result in area discrimination or shipper discrimination, they would be unlawful..."

Mr. Margolin said the carriers are in an unstable financial situation. Let me say that although I don't think any of the carriers are making an undue amount of money, I don't think there are undue losses. Our entire system is in pretty fair condition. We fail to see the transportation crisis we have heard so much about. It just does not exist. The railroads have lost traffic percentage-wise since trucks have come into the picture, but their tonnages are up. It seems ridiculous to insist that the railroads must be permitted to maintain a certain percentage. They don't haul all the fuel today because pipelines carry oil. There are more than 25,000 communities now served only by motor carrier. These changes naturally change the freight hauling picture. So they are down to 52 per cent of the total figure. What of it?

We think there are three phrases in this Report on National Transportation Policy that are vital and set the stage for poor legislation. The present Act is "so administered as to recognize and preserve the inherent advantages of each" form of transportation. We object violently to the removal of that phrase for two reasons. If it is possible for one type to put another out, that is not a fair and impartial administration of the Act. Our other objection is that it removes the phrase that the courts have relied upon to prevent one form of transportation from taking over another. The people on the other side of

the fence say we cannot read that into it, but we believe it can happen.

Second, out of "to promote safe, adequate, economical, and efficient service and foster sound economic conditions among the several carriers" which is in the original Act, they take out the phrase "foster sound economic conditions." This has been deemed important in every act since 1920 and we believe it must stay in.

Third, they take out the phrase "destructive competitive practises" from the wording "without unjust discrimination, undue preferences or advantages, or unfair or destructive competitive practises." We think that should go back in. This would open the door to "dynamic" or cut-throat competition again. The transportation policy should not be tampered with.

### *At the heart: reasonableness*

The heart of the changes comes in the Rate Division. At the present time the Commission has the right to fix precise rates, minimum and maximum. There is a zone of reasonableness within which the carriers can raise or lower freight rates, subject to the Commission's scrutiny. I presume that 99 per cent of them go through without objection. But on that 1 per cent a protest means that hearings must now be held to determine whether or not the rate should hold. In other words, carriers can now exercise their own managerial discretion within certain limits, but the Commission can police the rates to make sure the carriers, in their zeal to obtain traffic, do not handle high-value freight at rates which return nothing above the bare out-of-pocket cost of performing the service. This would impose an undue burden upon other carriers whose rates include overhead and other fixed expenses.

Now the Report would deprive the Commission of its power to police the carriers' rate making efforts, with the result that the size of the zone within which the carriers could exercise their managerial discretion would be vastly increased. The Committee's recommended restrictions would leave the Commission helpless to declare any rate too low, no matter what the nature of the traffic, so long as the rate returned revenue equal to the bare out-of-pocket cost of performing the service.

It is obvious that, because of their vast financial resources, the railroads could outlast their competitors on a bare subsistence financial diet, even if they did not have a backlog of non-competitive traffic with which to subsidize their rate-cutting efforts on competitive traffic. It becomes crystal clear that the recommendations not only would remove any regulatory deterrent to the railroads' managerial discretion in fixing the level of their rates, but indeed would leave to their same managerial discretion the determination of whether competing forms of transportation would be allowed to survive.

To further complicate the matter, they say that if a railroad or a motor carrier goes below

his bare out-of-pocket costs, the injured carrier must come in and prove this fact. That may sound simple, but the Commission cannot help you with their figures. The motor carriers cannot get at the rail figures and the rate experts tell me that it would be virtually impossible for the motor carrier or any carrier to shoulder that burden. So that this proves to be a phony.

There are nine tests the Commission now uses to fix reasonable rates. As I see this Report, all but two of those are eliminated. The new test would be simply the out-of-pocket cost criteria and possibly whether they throw an undue burden on other traffic. The others will all go out of the window. The value of service system of rate making would ultimately be destroyed.

In addition to the crucial rate change, the long haul clause would be changed. This would make it possible to negotiate special rates for train-load shipments. Some of those are permitted today but the Commission must approve them. If the Report is adopted, the Commission would have no power to scrutinize the proposed rates or strike them down. In effect, they would be automatic.

I think in two places in the report we find it stated that this new policy will cause traffic to flow to that mode of transportation which is best suited to handle it. Well, we question that. We think that the shipper will suffer terribly as shippers suffered terribly back in the 80's and



**Breithaupt, Railroads:** Would the ICC prevent Ford from cutting prices because they might get more than a fair market share?

at other points. We believe that the small shipper, the small community, the isolated areas will suffer particularly under this system of rate making.

Certainly your shipper of bulk commodities who is rail-bound, so to speak, is almost certain to suffer because as the rates on the competitive commodities which can be hauled by truck come down, as they certainly will for a period of time anyway, the rates on this other traffic must go up because the railroads will not be making enough money to absorb the cost of the battle with com-



petitive carriers out of their earnings.

It will tend to favor your large centers of population and the heavy manufacturing areas as against the small, so that we will reverse the present healthy trend toward decentralization. These are the main points of this proposed legislation which will affect the industrial shipper.

**Chester C. Thompson, President,  
American Waterways Operators, Inc.:**

Water carriers generally oppose all of the recommendations in the Cabinet Committee Report. We think definitely that they are all railroad slanted, that they are designed to help one form of transportation in its competitive relationships with others.

I represent the inland water carriers who operate on all the inland waterways including the rivers, the harbors, the bays and sounds. However, I have discussed this matter at some length with representatives of the carriers operating on the Great Lakes, in off-shore shipping and in the coastwise trade and I can say without any hesitancy that all forms of water transportation are opposed. . . .

It appears to us that the entire concept behind the Cabinet Report was the fact that there is a serious railroad problem in this country. We don't think so. We see no problem. It is strikingly strange that the recommendations in the Report encompass practically all of the changes in the Interstate Commerce Act that representa-



**Pinkney, Trucking:** *The right to fix precise rates is the great stabilizing instrument this legislation would deny now to the ICC.*

tives of the railroads have been advocating for the last decade and for that reason we make the charge that the Report and the implementing legislation are railroad slanted.

Like the motor carriers, we are opposed to the change in rate making. The Interstate Commerce Commission now has authority to fix minimum, actual, and maximum rates. The Committee recommends that the middle be struck out. We think that's wrong. We think it will enable the railroads to cut rates in some areas where competition exists and keep them

higher in other areas. Those safeguards must remain in force.

### ***Rails' problem people, not freight***

In one respect, there is a railroad problem. Without a doubt the biggest problem the rails have is the serious losses they are obliged to assume on passenger train operation. There isn't a water carrier operating in the United States that handles any passengers to speak of. We handle freight exclusively. Certainly our competition with the rail carriers in freight hauling has nothing to do with passengers or the mail or the baggage or the express traffic. Yet to subsidize their passenger losses, they will be permitted to engage in selective rate cutting to drive us out of business. Then, ultimately, they will be able to raise the price of transportation to the shipper and receiver of freight because they will have driven out the competition.

We think the whole principle of selective rate cutting is wrong. We had a situation during the war where trainload rates were put in on iron ore moving out of Upper Minnesota and Wisconsin to Granite City. All the railroads that served these areas were in on the act and the water carriers did not get a pound of the ore that moved south.

This created a tremendous imbalance despite the fact that the Act is supposed to preserve the inherent advantages of all forms of transportation. During the war most of the traffic on the Mississippi River system was upstream. There was no export business during the war so that barges went down the river practically empty. The imbalance got so bad as 85 per cent loaded northbound and against the current, and only 15 per cent southbound.

### ***Discrimination in volume rates?***

To my knowledge, these selective volume rates have only been applied so far where the railroads have water competition. This hurts us and it hurts the industries who are served only by rail, because they don't get the lower rate their competitor may be getting.

The railroads are complaining publicly that they are losing traffic percentage-wise. Well, that's true. I expect back in 1910 they handled perhaps 90 per cent of the available freight. Now it has diminished to perhaps 55 per cent. Nevertheless, they are handling a greater absolute tonnage than they have ever handled before.

I suppose at one time Ford enjoyed 60 per cent of the automobile market. With new competition, Ford doesn't have that much now. Yet Ford will probably sell more cars and trucks this year than ever before. Does Ford ask the Government to help them regain that old 60 per cent participation? Why should one form of transportation be guaranteed its historical percentage of the market? That would appear to be untenable and we just don't think it ought to be brought about.

**Harry J. Breithaupt, Jr., Assistant  
General Solicitor, Association of American Railroads:**

Mr. Thompson drew a comparison that I am happy to pursue. It was between this situation in transportation and the changing percentage of the total market held by Ford and other companies that produce automobiles and trucks.

Industrial management, for which we are trying to clarify these issues, ought to be interested in the situation that would prevail were the Ford Motor Company, for example, able to



**Thompson, Waterways:** *"Why should one form of transportation be guaranteed its historical percentage of the market?"*

produce an automobile for \$300 less than their competitor but then be told by an impartial Government agency—as the Commission is, of course—that to permit them to sell the Ford at \$250 or \$300 less than the Chevrolet would result in taking more than a fair share of the market away from General Motors. Consequently, their minimum price for the Ford would have to be held up \$300 above that which their management wanted to sell it. Industry, of course, wouldn't tolerate this sort of thing and, as you all know, that is the situation as we see it under existing law as it is administered in relation to surface transportation.

One matter emphasized here today has been thoroughly misunderstood. There was the same misunderstanding during the hearings held in September by the House subcommittee. I refer to the maximum-minimum rate concept.

All the Report has suggested, as I read it, is that the zone of reasonableness be continued, but that the authority of the Interstate Commerce Commission be limited to prescription of what shall be a reasonable minimum and a reasonable maximum rate. What is overlooked in these allegations made about the freedom of railroad management to swing back and forth within the zone of reasonableness with alleged resulting discrimination to shippers or commodities or communities is that there would still, as there is today, be a requirement that the regulated car-



**Hanlon, Celanese Corp.:** *Why is the trucking industry opposed to rail volume rates for long hauls, which can benefit the shipper?*



**Henry, Railroads:** *We have been on the receiving end for 25 years. We want to send out occasionally.*



**Bellezza, General Cable:** *We find it difficult even to discover what exactly constitutes a private carrier . . .*



**Margolin, Commerce:** *The Committee came to the conclusion that the regulatory laws do not square with the competitive facts of life...*

riers post the precise rate with full notice to the Commission and to the public for a period of not less than 30 days—unless the Commission in its discretion should, for good cause shown, permit less notice.

### ***"Fighting windmills and ghosts . . ."***

During the time that the precise proposed rate was on file with the Commission, anyone who thought that discrimination would result could protest to the Interstate Commerce Commission. The Commission, under the provisions of the proposed legislation as I read them, would be able to suspend the effective date of that proposed rate and investigate whether or not undue discrimination, preference, or prejudice would result. If they found that this in fact would result, they could condemn the rate. So it seems to me that we are fighting windmills and dodging ghosts when it is assumed that this recommendation would result in discriminatory practices.

Mr. Pinkney, speaking for the motor carriers, and Mr. Thompson, speaking for the water carriers, appear to be frightened at the possibility that they will be put out of business. As for their reasoning, they seem to feel that the railroads would go down to "bare out-of-pocket" costs under these recommendations or even below. I ask you a simple question which should answer itself: why in the world should the railroads seek to go down to bare out-of-pocket costs? The main purpose of management anywhere is to enhance its net revenue position.

### ***Drain could hurt rail-bound traffic***

What the shippers of so-called "non-competitive" traffic on the railroads have to fear is not that there will be reductions brought about in some rates to enable the railroads to obtain a greater volume of traffic in a competitive field, but, rather, that there will be a continued draining away of competitive traffic from the railroads in such a way as to saddle the shippers of so-called "rail-bound" traffic with an even greater share of the total transportation burden.

It has been suggested that the railroads themselves are faring extremely well under the present system of regulation. The answer is that . . . their post-war rate of return has ranged from a low of 2.75 per cent to a high of 4.31 for an average of only 3.68 per cent and even that is overstated because of rapid amortization.

From the railroads point of view there are a number of things wrong with Federal transportation policy. The Report does not deal with, for example, the Government's policy of granting subsidies and other public aids to certain forms of transportation with which the railroads are in day-to-day competition; nor does the Report deal with the failure of the Government to impose adequate charges for the use of transportation facilities provided and maintained at public expense. It does not deal with that policy

which operates to restrict severely the railroads' use of other forms of transport, especially highway transport. It does not deal with the unfair Federal excise taxes upon amounts paid for the carriage of property and persons, which discriminate in favor of private carriage and against for-hire carriage.

One of the major recommendations is that the declaration of National Transportation Policy be revised to make it clear that all types of common carriers are to be permitted greater freedom in competitive pricing and that in all such matters the regulatory commission is expected to act as an adjudicator and not as a business manager. Heretofore, the tone of the policy declaration has been relied upon, in part at least, by the Commission and the courts to justify artificial and arbitrary allocation of traffic among the several forms of transport. In a word, to justify the enforced maintenance of rail rates at levels higher than the railroads have thought they ought to be. The result has been that much traffic that should have gone by rail—cost and service considered—has been unnaturally diverted to competing forms of transportation. Why should not the public have that saving?

### ***"Fair-share" means no fair choice***

As matters now stand . . . if in the Commission's judgment the proposed reduced rate is lower than necessary to meet the competition and will therefore attract what it regards to be a more than "fair share" of the traffic, the Commission will condemn it. That, I think, represents an artificial and arbitrary allocation by Government fiat. It deprives the carriers of the opportunity to demonstrate their inherent advantages in the open market and, more important, it deprives shippers of truly free choice in selection. More important yet, it thus deprives the public of the obvious economies that would accrue. Under the proposed new law, the Commission could not consider the effect of that rate upon the traffic of any other mode of transportation.

The Report recognizes that one mode of transportation is economically superior for some services and another mode for others. The only way to find out which is superior for which is to give free play to market forces under fair competition in the market place.

### ***The Questions Begin***

#### ***Russel G. Bellezza, Vice-President, General Cable Corporation:***

There are certain definite advantages for a manufacturer to act as a private carrier or contract carrier in some instances. But what constitutes a private carrier? Will this be clarified? For instance, would the company that owns the goods be the transporter if he does not own the carrier but leases it? We could all be affected by this because of the proposals to have contract carriers publish rates.

*Continued on page 94*



*"Singleness of purpose is as important to the integrity of an institution as of an individual." But how is this singleness of purpose to be achieved? A leading British authority on management discusses the problems executives face in resolving the varied and often conflicting interests of stockholders, managers, consumers, and workers.*

# THE PURPOSE OF A BUSINESS



MAKE PROFITS? . . .



SERVE STOCKHOLDERS? . . .



MAINTAIN EMPLOYMENT? . . .



PLEASE CONSUMERS? . . .

LYNDALL F. URWICK

*Chairman, Urwick, Orr and Partners, Ltd.*

THERE IS to-day a great deal of discussion and writing associated with such words and phrases as:—

- a. *Leadership,*
- b. *Communication,*
- c. *Morale,*
- d. *Management by persuasion not by command,* and so on.

Sociologists and sociometrists, psychologists and pathologists, mathematicians and statisticians, ergologists and economists, anthropologists and apologists pour forth many millions of words a year, the vast majority of them directed to informing business men how to improve their performance. Business men as a whole remain unmoved and their performance unimproved. In those instances where the concomitance of two national slogans—"try anything once" and "a sucker is born every minute"—issues in a brief flirtation between some practical executive and one of these would-be "good fairies," the executive's passing satisfaction is usually paid for by a period of remorse.

Yet, as the interest aroused by the discussion of the words and phrases quoted indicates, American business is by no means self-satisfied with the climate of public opinion within which it operates. In recent years it has invested quite a number of millions of dollars in what is called "Economic Education." That is, in direct attempts financed by the employer to instruct those he employs in the advantages of the existing economic system in general, and of being employed by the XYZ Corporation in particular. Whether educational activities on this subject under these auspices are likely to prove a remunerative or profitable use of resources is open to question.

Apart from the suspicion which inevitably attaches to superior authority when extolling the excellence of its own efforts—"qui s'excuse, s'accuse"—economics is an extremely unsympathetic subject. For this there is a simple reason. The basis of classical economic theory, on which even to-day almost all formal teaching of the subject is still founded, was a number of gen-

eralizations about human nature. These generalizations were all limited in their application, and, if accepted as a comprehensive description of human behavior, even in its economic relationships, are untrue and therefore misleading.

Thorstein Veblen in *The Place of Science in Modern Civilization* put the point more than 35 years ago:

In all the received formulations of economic theory . . . the human material with which the enquiry is concerned is conceived in hedonistic terms, that is to say in terms of a passive and substantially inert and immutably given human nature. . . . The hedonistic conception of man is that of a lightning calculator of pleasures and pains, who oscillates like a homogeneous globule of desire of happiness under the impulse of stimuli that shift him about the area, but leave him intact. . . . Spiritually the hedonistic man is not a prime mover. He is not the seat of a process of living.

Joe Doakes, whatever his educational or even linguistic limitations, is well aware that he does not behave and does not wish to behave as classical economics describes him as behaving. He is very consciously "the seat of a process of living." The American constitution has assured

him that he is inalienably entitled to "life, liberty, and the pursuit of happiness" in his own way and not in someone else's, that "that's what it's all about."

Even if he is "first generation" he is likely to recollect that almost his earliest sight of America was an elegant, if somewhat outsize, female towering above an inscription urging older civilizations to

Send me your tired, your poor;  
Your huddled masses yearning to breathe  
free...  
I lift my lamp beside the golden door.

Though his first brush with the immigration authorities may have dimmed the lamp and rubbed some of the gilt off the door, he retains the conviction that he is a prime mover and that anyone who tries to treat him as a pawn at the mercy of economic forces is guilty of "unAmerican activities."

### He Knows What He Is

Most of all he resents and resists any attempt to rob him of his new-found freedom by thrusting him back into one of the under-privileged social categories characteristic of the traditional countries whose dust he has shaken off his feet. But this is precisely what economic theory seems to him to try to do.

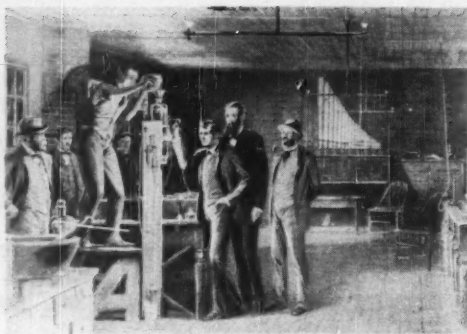
As one eminent American employer, the late E. A. Filene, has phrased it in *Successful Living in this Machine Age*:

It was universally supposed, for instance, that labor was a commodity. Nevertheless labor could not and did not act like a commodity. It acted like human beings. It acted, in fact, from much the same motives with which employers acted, and not even the most dismal economist supposed that employers were commodities.

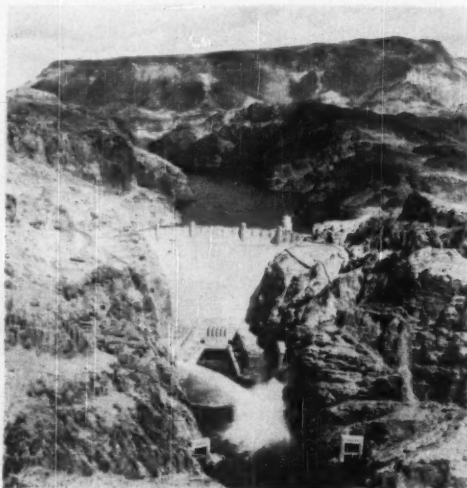
Apart from his, perhaps subconscious, recognition of the conflict between classical economic theory and the promise of American democracy, Joe Doakes, in common with employed persons in other industrialized countries, is driven by the forces which the evolution of an economy based on science and power-driven machinery has generated. First among such forces in its impact on social sentiment is the concentration of economic activities in larger units of control. As a result more and more people have become associated day by day in *their capacity as producers* and therefore socially more self-conscious of their interests as producers.

Simultaneously, increasing complexity in the processes by which goods reach the market have tended to buffer the individual from direct experience of the effect of high costs on him personally in *his capacity as a consumer*. As factory production has replaced domestic handicraft the functions of the family group have been specialized. So that the individual who has direct experience of the social pressures generated by large-scale production to protect his interests as a producer is a different person from the individual who has direct experience of their effect on the price level. The men go out to work and their wives do the shopping.

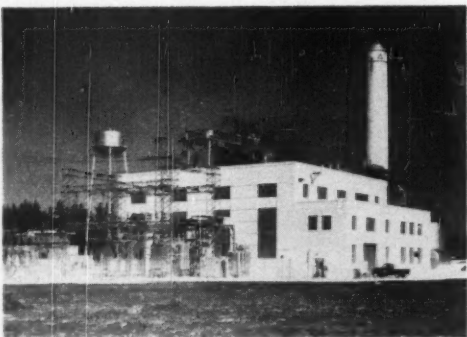
On the other hand, in a competitive and free



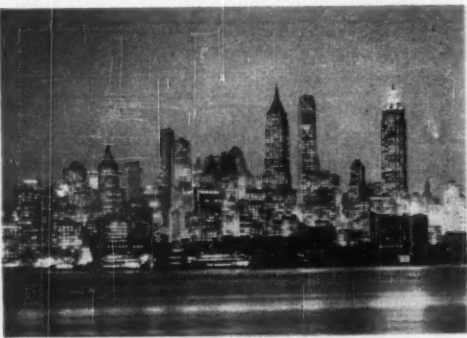
BETTMANN ARCHIVE



HOOVER DAM—DEVANEY PHOTO



PLANT AT RIVIERA BEACH, FLA.—DEVANEY PHOTO



LOWER MANHATTAN—DEVANEY PHOTO

"Every business starts . . . with an idea, a dream in some man's mind of some new good or service which he can create for society . . ." Once begun, the business grows, fostering new industries, aiding others. As it grows, it becomes more complex, involves more people and interests. To satisfy each and every interest is a worthy goal, but not an easy one to reach.

economy the primary social function of the business man, the entrepreneur, is to protect the interests of every man in *his capacity as a consumer*. By producing and marketing goods or services which create new wants or meet old wants better at lower prices he is continually driving up the real standard of living.

This invaluable social function is, however, for the reasons already given, for the time being at a discount in almost every industrialized country. In all such countries the great majority of the population are employed persons. The pressures on them to emphasize their interests as producers at the expense of their interests as consumers appear irresistible.

### An Easy Out?

Obviously everyone concerned is under some temptation to be animistic about this situation, to see it not as a conflict within every man, the old problem as to whether he is to "eat his cake or have it," but as a conflict between groups. It is always an attractive form of escapism to be able to father our failures, to reconcile our own conflicting impulses on other persons who are, of course evilly disposed.

Thus we have "trade union agitators" on the one side and "blood-sucking capitalists" on the other. Such thinking is on the same level as that of the member of a primitive society who makes a wax image of his "enemy" and thrusts pins in voicing the prescribed imprecations.

There is no conflict of interests between labor and capital. There is no interest of capital which labor does not share and vice versa. The current economic system is not an affair of "cops and robbers." The conflict, as far as it exists, is within every man, between his interests as a member of some particular business in pleasant conditions and security as a producer and his interests as a member of society in plentiful goods at low prices for consumers.

But the organized workers with their gaze fixed on their interests as producers are easily convinced that ownership is an obstacle to those interests, not a trustee for the community as consumers. The authority of management essential to organized human effort is resented and resisted. As consumers they are isolated units with none of the social self-consciousness engendered by their association as producers. Inevitably they seek the intervention of the state to regulate their relations with business men and even to protect them from the effect on prices of their own actions as organized producers.

Equally inevitably the state is helpless. Because it is essentially a political organism. But the management of business, of economic activities, is a technical art, not a political art. It cannot be practised successfully along lines which are the result of political thinking or in directions determined by political considerations. It has been well said by David Lilienthal in *TVA-Democracy on the March*, "there are all kinds of politics; administrators and experts

*Continued on page 102*



# SHEET FORMING: fast road to . . .

ANNESTA R. GARDNER

Industrial Editor

**T**AKE A SHEET of plastic, a little heat and pressure, and the simplest kind of tools, and you can turn out a wondrous array of products, packages and displays.

Or, spend a little more on equipment, and you have a mass-production technique that can turn out parts, or groups of parts, at a rate of 20 or more a minute.

Thermoplastic sheet forming—by vacuum or mechanical pressure—is faster than injection molding, and often cheaper. Ease and speed of tooling make it possible to translate ideas into products and promotion pieces in a few days' time; and to change designs readily.

No wonder formed plastic sheeting is attracting a lot of attention these days.

It's not a brand new idea. Like many an "over-night sensation," this technique spent a good many years playing small rôles, before it was ready to take the center of the stage. It was almost literally "Born in a Trunk." Among its earliest applications were cases for cameras and instruments. As long ago as World War II, transparent blisters for aircraft were vacuum-formed. Use of pressure-formed plastic sheeting in prototypes of new products is by no means new (see MODERN INDUSTRY, November 1951, page 8).

Still, even four years ago, the total industry consumption of plastic sheeting was barely two million pounds. Last year, though, it had jumped to nearly 50 million pounds; and now, predictions of 200 million pounds by 1960 don't seem unreasonable.

What gave sheet forming such a sudden and tremendous boost? At least three things, coming together at just the right moment:

Inexpensive, easy to operate forming equipment was developed and placed on the commercial market; thermoplastic sheeting became available in more types and greater quantity; and contract-forming firms sprang up across the country, ready to turn out parts and packages for products ranging from refrigerator door liners to drug packages.

There are three basic forming methods:

Pressure forming, or mechanical forming, using matched dies between which a heated sheet of plastic is placed and shaped.

Vacuum forming, using a single die, against which the sheet is forced by exhaust pressure.

Air pressure forming—essentially the reverse of vacuum forming—in which a blast of air is used to bring sheet and die together.

Tooling, temperature, and pressure requirements are similar for all three. As a matter of fact, there are machines on which the three operations can be performed interchangeably.

Dies may be of wood, plaster, plastic, or metal, and the pressure requirements are modest. Temperature is, however, a critical factor, and must be carefully controlled.

Of the three forming techniques, the one moving fastest right now is the vacuum method. However, each has its own advantages and limitations, and all should be investigated before any final decision is made.

*Continued on page 54*

**PRODUCTS** from machine housings to toys are quickly and easily formed.



VACUUM FORMING CORPORATION PHOTOGRAPH

**PACKAGES** that display as well as protect products can be made at moderate cost.

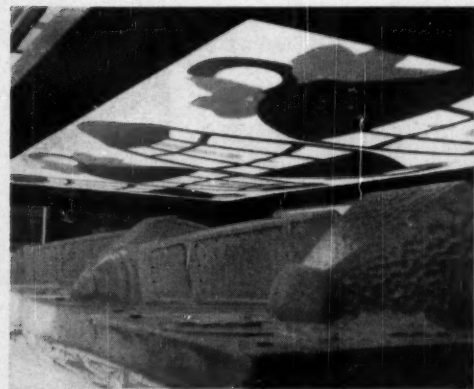


E. F. GOODRICH CHEMICAL COMPANY PHOTOGRAPH

**PROMOTION** has new zip when formed domes are used in assemblies like these.



MPLES: PLASTIC ARTISANS, INC., NEW JERSEY MACHINE COMPANY



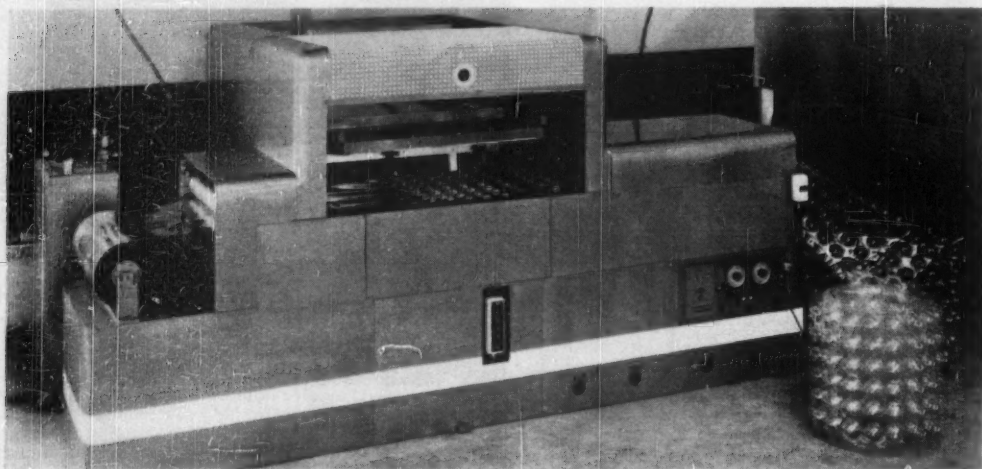
Pre-printed materials, multiple dies, help keep forming costs down. Here, printed sheet is positioned above cast Marblette phenolic resin die.



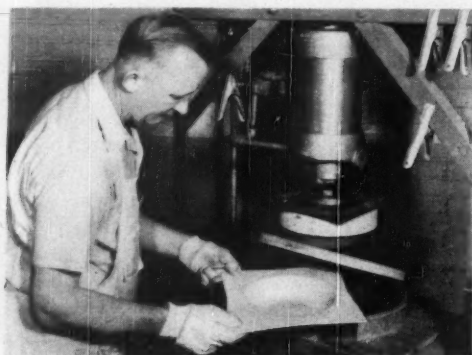
After forming, sheets need only be cut and trimmed to be ready for use. Each of these will then yield four separate lantern display pieces.

## Sheet forming

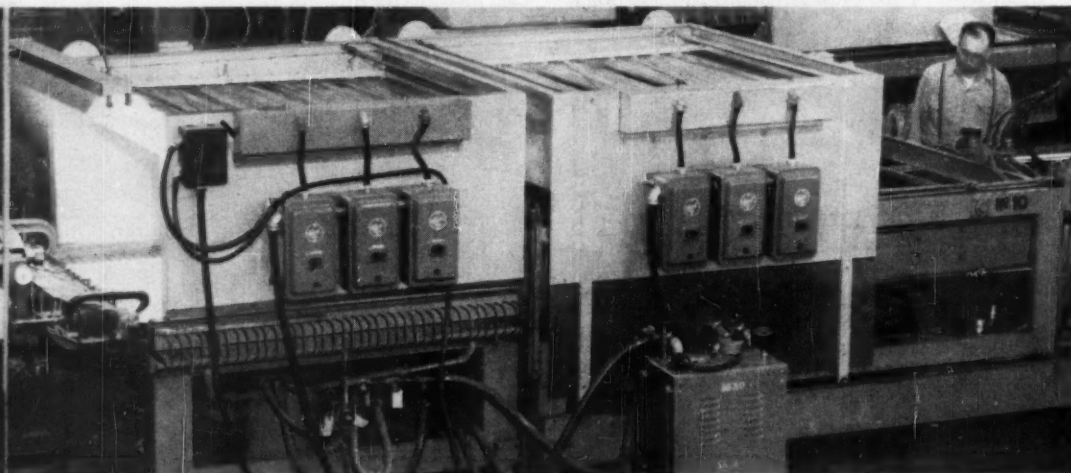
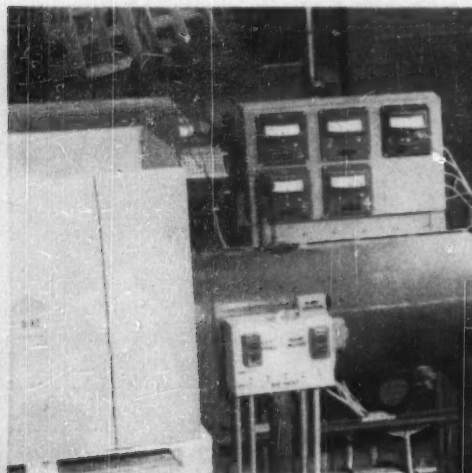
# Buy the equipment—or build your own—



Fast, automatic forming equipment is now available commercially. This roll-fed unit, made by Auto-Vac Company, has built-in radiant heater, can be adjusted to handle material from 12 to 22 inches wide. Here, it's turning out cellulose acetate domes like those used in blister packaging.



Basic simplicity of sheet forming technique makes it possible for many plants to build their own equipment to turn out prototype models for product design studies or samples for market research. Here, heated sheet of rigid Geon vinyl plastic is shaped between two inexpensive laminate dies.



Integrated production line at General American Transportation's Plastics Division features continuous flow from extrusion machine to finished molding, eliminates extra handling and heating. It can turn out complete

refrigerator panels like the ones at the right, television cabinets, lighting fixtures, furniture sections. General American now has units of this type at two of its plants, uses them on contract work for many manufacturers.

How does one turn a flat sheet of plastic into an attractive package, a sturdy instrument case, a refrigerator door liner, a lighting fixture, or a prototype tractor part?

Should the part be made of sheeting at all—or would it be better to injection mold it or fabricate it from a set of individual parts?

Which is the best plastic to use?

Which forming method will give the best results?

Here is how experts like Carl F. Massopust of General American Transportation Corporation's Plastics Division, Carl Middleton of Plastic Artisans, Inc., and W. J. B. Johnson of the Valley-National Corporation answer these questions:

There are a few applications in which sheet forming and injection molding are directly competitive—but very few.

If the part is complex and has thick-and-thin sections, webs, or tapered holes; or if surface smoothness is a critical factor, injection molding is probably indicated. (Recent progress, though, in laminating thin, clear sheeting to the regular forming grades, and in improving the forming materials themselves, may eventually permit sheet forming to compete with injection molding in the latter respect.)

Where speed is of the essence; where injection molding's high tooling cost (often ten times that of sheet forming) can not be amortized in a reasonable length of time; or where it is desirable to take advantage of the savings in pre-printing plastic sheet (see photographs, page 53), sheet forming is the likely choice.

In considering tooling cost, however, it should be remembered that formed parts must often



## to form materials like these

be trimmed from the sheet—an extra operation; and complex parts may require separate punching and shearing. With injection molding dies, the whole job can often be done at once, so that it is only necessary to cut off gates and runners.

Even in cases like this, though, vacuum forming may save enough on tooling time to make it worthwhile. Forming dies can be made in a few hours or a few days. Injection molding dies may take weeks.

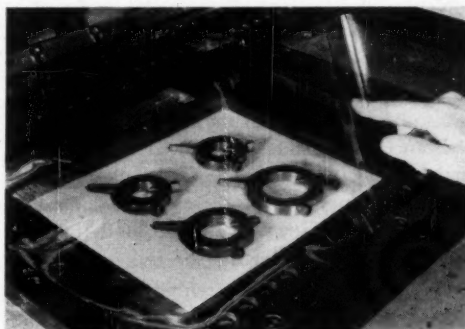
Selection of materials for forming is limited to the thermoplastics—those which soften on heating and harden again when cooled. But there are more than a score of these—acetates, acrylics, polystyrenes, rubber-resin blends, polyethylene, and the vinyls—which can be vacuum or pressure formed. As the photographs at the right indicate, each has its own special properties which fit it for particular jobs. Since they also differ a good deal in cost, it's not hard to decide which one to use for a specific job.

As one example, acrylic sheeting, polystyrene, the vinyls, and cellulose acetate and butyrate are all transparent, and thus suitable for many packaging applications. But polystyrene, one of the least expensive, is relatively brittle (impact, polystyrene is tougher, but not transparent); and the acrylics are high enough in cost so they are generally used only where their excellent sunlight resistance, optical clarity, and other special properties are particularly desirable.

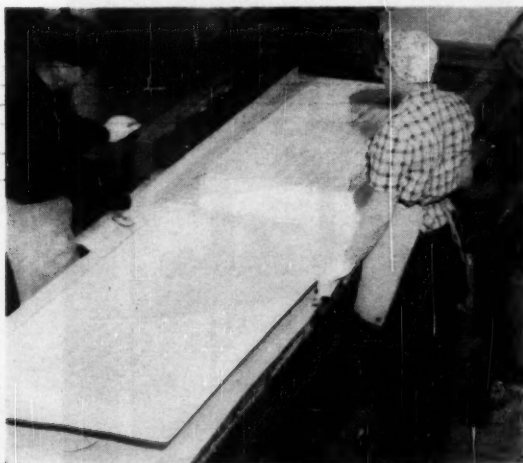
That brings the choice down to cellulose acetate, butyrate, and the vinyls. Since cellulose acetate is tough, easy to form, and generally less expensive than butyrate or transparent vinyl sheeting, it is often the logical choice. If unusual dimensional stability were required, though—



Vinyl sheeting is valued for its dimensional stability. Aero Service Corporation uses pre-printed Bakelite material in producing maps like this to assure best possible registration between printing and contours, despite varying conditions of temperature and humidity. Colors are stable, too.



Cellulose acetate is good-looking, easy to form. It's widely used for blister packaging; and, as here, for skin packaging. This is a relatively new technique in which the sheeting forms a skin-tight, nearly invisible covering that displays and protects products while holding them to backing cards.



High-impact polystyrene is tough, fairly low in cost. General American uses it for cabinet panels like these, many other appliance parts.



Rubber-resin "alloy" is strong and durable. Plymouth uses it for this Suburban Station Wagon headlining, notes that vacuum formed plastic section can be made in one piece, and in a variety of colors, is easy to clean, easy to install and remove for roof repairs, and helps insulate car interior.

## Sheet forming

for accurate registration of printing, for instance—vinyl sheeting might well be used. Still another material in the same general price range that offers excellent physical properties is ethylcellulose. Where its slight bluish cast is not objectionable (as in many food-packaging applications), it too would rate consideration.

One limiting factor in materials selection is that not every plastic is available in every type and thickness. Some high-speed forming equipment, for instance, uses material in coils rather than flat sheets. Not every thermoplastic is, as yet, obtainable in this form. It's a good idea, before the final selection is made, to be sure that the type you want is available.

Finally, how to get the job done? Is it better to build one's own equipment, buy a standard machine, or turn the job over to a contract-forming concern? Here, the answer is pretty much the same as it would be for any other technique:

Ordinarily, the beginner would be well advised to have formed sheet parts made outside, rather than trying to do the job himself right from the start. Every trade has its tricks, and it takes time to learn them, particularly when the technique itself is a new one that is still being explored. Occasional users, too, generally take advantage of contract forming instead of building or buying equipment that may stand idle much of the time, or become obsolete long before it has paid for itself.

On the other hand, the large-scale user of sheet formed parts may want to set up his own facilities, though many still prefer to have the job done by a concern which specializes in this type of work.

In any event, it's a good idea to tap the know-how of equipment and materials suppliers, many of which offer excellent technical data books, and of the associations in the field. Much information is contained in talks delivered at recent meetings of the American Management Association's Packaging Division, the Packaging Institute, and the Society of the Plastics Industry.

All of these have plenty of suggestions, too, on new applications for formed sheeting. For instance, talking to a recent symposium held by the Society of the Plastics Industry, V. L. Kiernan of St. Regis Paper Company's Panelyte Division noted that applications now range from air conditioner drains to textile yarn guides. Other possibilities include furniture drawers, clothes hampers, automobile trim, guards and shields for industrial equipment, electronic insulators, aircraft window frames, and toys, novelties, and displays of all kinds.

Packaging alone provides tremendous oppor-

tunities. As C. W. Harper, Manager of the Sears, Roebuck Informative Packaging and Labeling Division points out, a formed sheeting package can turn an ordinary product into a fast moving sales leader.

Sears is now using blister-type formed packages for many of its hardware items. The blister dome protects the product and makes sure that mounting screws and similar accessories will not be lost; and the backing to which it is attached makes it possible to identify each item and include instructions and pricing information. This combination of visibility-plus-security does a lot to reduce merchandise "shrinkage," and increase customer satisfaction. It's particularly important in self-service merchandising, but it is useful in almost any type of sales set-up. Often, too, a shaped blister can be used to combine two or more once-separate packages into a single unit. And that, of course, means faster sales, and often greatly increased sales volume.

The Sears blister pack is similar to the promotion pieces pictured on page 53, except that Sears uses a fold-over card, sealing the blister between the two halves by means of a pressure-sensitive adhesive. The promotion pieces are made by attaching the blister to a flat card, using a regular roll label (and, incidentally, a standard labeling machine). Both methods are simple, effective, and low in cost.

New packaging techniques and new forming materials are coming up fast, too, among them, skin packaging and vacuum-formed polyethylene. The strong, transparent new polyester film is also being tested, but the toughness and heat resistance that make this film so desirable also make it difficult to form. So far, results have not been satisfactory, though there is little doubt that a way to form it will be found, and that this material, too, will join the sheeting parade.

So, if you need a fast road—and a good road—to products, packages, or promotion pieces, you'll find it well worth while to investigate formed sheeting.



Chemical equipment can be good-looking as well as functional, as this sulfuric acid feeder shows. It is made of Geon rigid vinyl sheeting.

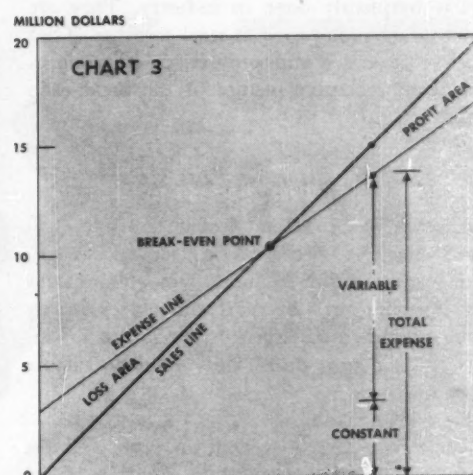
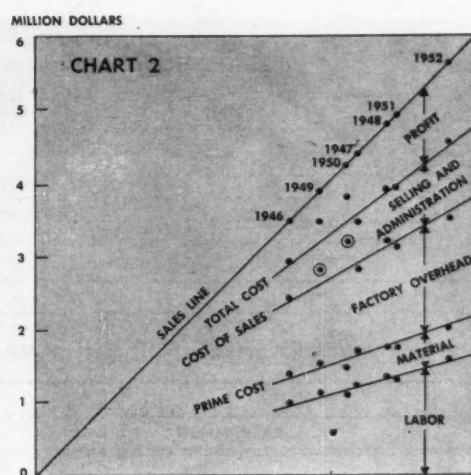
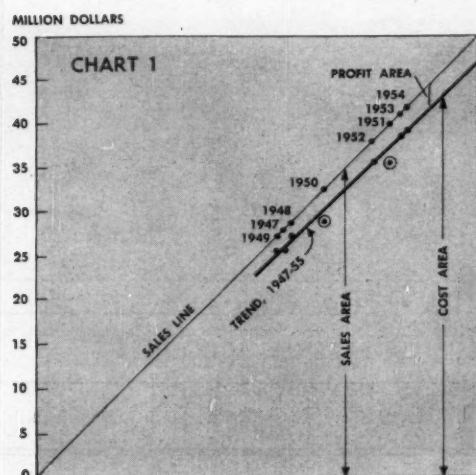


Wall covering, made by National Vacuum Molding Corp., provides a simulated brick surface that can be cut to size, attached with adhesive.



Sales kits stay neat and attractive when formed sheeting packaging methods are used. Celanese acetate sheeting, vacuum formed by Shaw-Randall Company, helps Franklin Hardware Company salesmen display their products; at the same time keeps fasteners and other small parts from being lost.





AN EXPANSION in sales may not be the blessing it appears at first glance. If higher costs become necessary to achieve the expansion, profits may suffer. In planning for higher profits, it is important to determine in advance the changing relations between sales and costs. Here are some ways this can be done in simple, understandable chart form.

## Three Guides to Profit Control

RAYMOND VILLERS

*Rautenstrauch & Villers*

ANOTHER year is about to start. Industrial executives all over the country once more ponder the fundamental questions of profit control:

- How did we do in '55?
- Could we have done better?
- How? and what about 1956?

Maybe these are precisely the questions you are asking yourself. In your own company, as in many other businesses, you may even have to choose a side between the "sales conscious" executive, who wants to sell, almost regardless of costs and the "cost conscious" executive who wants to reduce costs, almost regardless of sales.

Ultimately, these two executives and their staffs are likely to compromise. Generally, it will not be without a fight ended by playing a game of give and take. Rarely, if ever, do these men reach the point where they can truly understand each other. Why? Is it merely a matter of personality?

It rather seems that both sides are misled by an oversimplification of the concept of profit control.

The accounting document used for measuring profit, the Profit and Loss Statement, basically amounts to an equation:

*Profit equals Sales minus Costs.*

This equation can be misunderstood. Even experienced executives often tend to rely too much upon the one-sided approach to increase profit: reduce cost on the one hand or increase sales on the other hand. Sometimes indeed it can be done, by eliminating waste or by applying bright new ideas. More often than not, however, cost reduction does somehow interfere with selling; conversely, it generally costs money to increase sales. This is why, in most cases, the fundamental question is: "Which is the most profitable alternative?"

To answer this question requires a break-even analysis. *The break-even analysis relates costs to sales and measures profit as a function of this relationship.*

Accounting data are the basis of such an analysis, but the sales and cost data found in the accounting statements have to be properly related to each other. How can this be done without requiring exceedingly complex computations and how can the result of this analysis be presented in a simple form?

An answer to this question is the use of three simple charts which will be considered in this article:

- Profit and Loss Chart
- Break-Even Chart
- Sales Mixture Chart

Each of them can be used independently, and

TABLE 1—UNITED STATES ENVELOPE CO. 1947-55

Figures are in millions of dollars, plotted in Chart 1

	1947	1948	1949	1950	1951	1952	1953	1954
NET SALES.....	27.6	28.5	27.2	32.4	40.0	37.9	41.1	41.4
COST OF GOODS SOLD, DELIVERY, ADMINISTRATIVE SELLING, GENERAL AND DEVELOPMENT EXPENSES.....	25.1	26.7	25.4	28.8	34.8	35.0	37.6	37.8
DEPRECIATION OF BUILDINGS, MACHINERY AND EQUIPMENT.....	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.8
TOTAL EXPENSE.....	25.5	27.2	25.9	29.3	35.4	35.6	38.3	38.6
PROFIT FROM OPERATIONS.....	2.1	1.3	1.3	3.1	4.6	2.3	2.8	2.8

this is frequently done in industry. They are more valuable, however, if used together. They check each other and provide, as a group, a truly comprehensive picture of the break-even analysis.<sup>1</sup>

### The Profit and Loss Chart

A series of profit and loss statements is all that is needed to prepare a profit and loss chart. This makes it simple indeed and also means that in many cases the chart can be prepared by using published data. An executive can in this way learn a great deal about the cost structure of competitors.

Here is an actual case.

Chart I was prepared from the profit and loss statements of the United States Envelope Company for the period 1947-1954, as published in *Moody's Industrial Manual*; the data are in table I, on page 57.

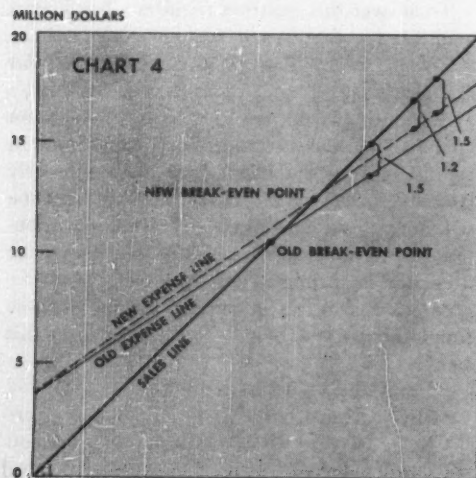
Essentially, this profit and loss chart reflects the trend of the *cost to sales relationship*, as established over an eight year period. This trend divides the *sales area* of the chart into *cost area* and *profit area*.

How can you determine such a trend? How can you use it? These questions will be answered by considering how you can prepare and use a profit and loss chart for your own company.

Basically, the chart is a square with one diagonal drawn from bottom left to upper right. This is the sales line, on which you plot your company's sales figures, reading from the dollar scale which is located on the vertical axis. The range is suited, of course, to your company's sales volume.

For each year of the period considered (preferably five to ten years), plot total costs on the vertical that goes through the sales point of this particular year. Use the same scale in plot-

<sup>1</sup>This article will concentrate upon the fundamentals of the methods described, which have been the subject of extensive research and study by the author. For more details, and for the presentation of case studies, see R. Villers, *The Dynamics of Industrial Management*, Funk and Wagnalls, 1954; Rautenstrauch and Villers, *Budgetary Control*, Modern Industry Book, 1950; Rautenstrauch and Villers, *The Economics of Industrial Management*, Modern Industry Book, 1949; see also *Business Week*, July 8, 1950; *Fortune*, February 1949; and *Modern Industry* December 1948.



	1946	1947	1948	1949	1950	1951	1952
Sales.....	3.5	4.4	4.8	3.9	4.2	4.9	5.6
Direct labor.....	1.0	1.2	1.3	1.2	1.1	1.3	1.5
Material.....	.04	0.5	0.4	0.3	0.4	0.4	0.4
Prime cost.....	1.4	1.7	1.7	1.5	1.4	1.7	2.0
Cost of sales.....	2.4	2.8	3.2	2.8	3.1	3.1	3.5
Total cost.....	2.9	3.4	3.9	3.4	3.8	4.0	4.5

ACCOUNT		BALANCE	VARIABLE	FIXED	REGULATED
NO.	DESIGNATION				
①	②	③	④	⑤	⑥
678	SALESMEN COMPENSATION	50,00.00	18,000.00		32,000.00
		TOTAL EXPENSE	TOTAL VARIABLE	TOTAL FIXED	TOTAL REGULATED

ting the costs as you did when plotting sales.

The line connecting the total cost points is the trend for the period considered. Draw this line at sight. Leave exceptional years out of trend. This was done in Chart I for 1950 and 1951 which, according to the company's annual reports, were exceptionally profitable due to a sudden increase in demand.

Sometimes the total cost points are found haphazardly spread, showing no trend. This by itself is meaningful. It generally indicates a lack of control. In most well-managed companies, there is a trend.

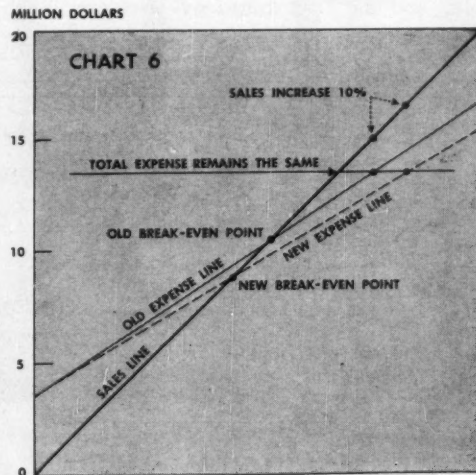
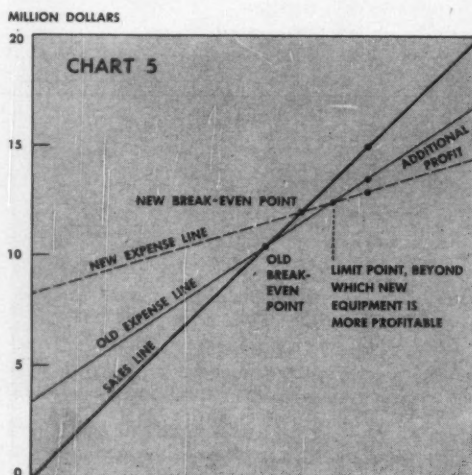
What such a trend gives you is a yardstick of measurement. By plotting on your chart actual results for the past year (or budget estimates for the coming year), you can compare them to what the trend indicates they would have been

if they had conformed to the pre-established pattern. If they don't conform, an explanation is in order. Speaking of budgets, you will find such a trend especially useful in detecting the most insidious and therefore most dangerous form of inaccurate budgeting—the over-optimistic budget.

Now, of course, the established pattern reflected in the trend should not necessarily be considered as final. Improvements may be possible. Up to this point, only the total cost trend has been mentioned. A refined approach is to plot a trend for each category of cost. The method to follow is exactly the same as when plotting total cost.

Chart 2 is a refined profit and loss chart, constructed from the data in table II. They

*Continued on page 90*





***it pays to plan in plastics molded by General American***

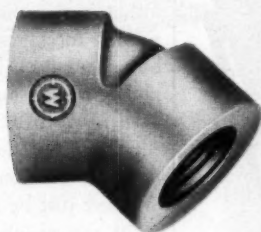
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Write today to find out how General American's exceptional combination of planning and production can help you.

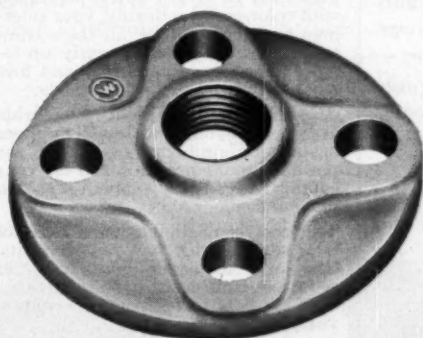
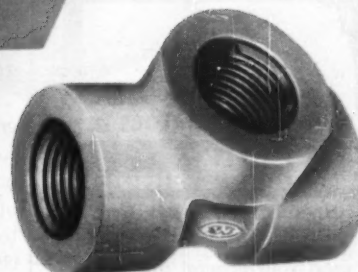
\*polyvinyl chloride



Walworth offers a full line of polyvinyl chloride piping material ranging in size from ½" to 2". It is corrosion resistant, heat resistant and able to withstand high pressures. The rating of the fittings is the same as the rating of schedule 80 PVC plastic pipe.



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Title.....

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## AIMING

Continued from page 40

parents—and, yes, their bosses, too.

You probably have heard a lot of advice about "how to sell yourself." Some of it may be useful for some purposes—I don't know. But it is not very good advice for a young business man. If you want to climb the management ladder, concentrate on selling a bill of goods, not yourself.

Sometimes we are inclined to think, "Who's going to know the difference? It's just a matter of using the right words, isn't it?" This is a very tempting line of thought—but watch out for it. Whether you are working for the company or yourself *does* show up in what you say. People have an uncanny ability—especially if they are good business men—to differentiate between the man who is working to sell a bill of goods and the man who is only selling himself.

An awful lot of people have lost promising careers in business through wanting to be liked. Actually, many young men would be well advised to be tougher. They have a mistaken idea of "human relations." Good human relations does not mean being nice to people so that they will like you. They require square shooting, frankness.

A tendency which often seems to go hand in hand with the desire for popularity is "pushing" too hard. There are common symptoms of "pushing"—for example, talking too much, or delegating essential chores to somebody else. By so trying to prove his importance, he grabs for undeserved credit. Unconsciously, possibly his criticisms of others are an effort to build himself by contrasts, sometimes unwarranted.

Of course, as we all know, "pushers" have a tendency to antagonize people. What makes things worse, it seems to be human nature for a person, once he has antagonized someone by trying too hard, to try even harder the next time. So doing may prejudice others deeply, however hard they try to understand the situation. It often creates a stumbling block for the "pusher" at the very time that he needs most to progress.

Does this last sound inconsistent with what went before? The first idea was not to try too hard to be

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popular; the last one deals with the dangers of antagonizing people. Actually, the two thoughts are not inconsistent at all. What I am saying is: Don't worry about your popularity. If you are a salesman, be more concerned about your product and your prospect; if an accountant, about the story your figures tell; if a plant supervisor, about production.

## Analysis

For many years if someone had called me an "introvert" I would have considered it a deep insult. Finally I pulled out a dictionary. I found that "introversion" describes a process which is very normal for good managers. In self-educating ourselves, we need very much to analyze other men in terms of our own pluses and minuses, and to analyze ourselves in terms of others' pluses and minuses.

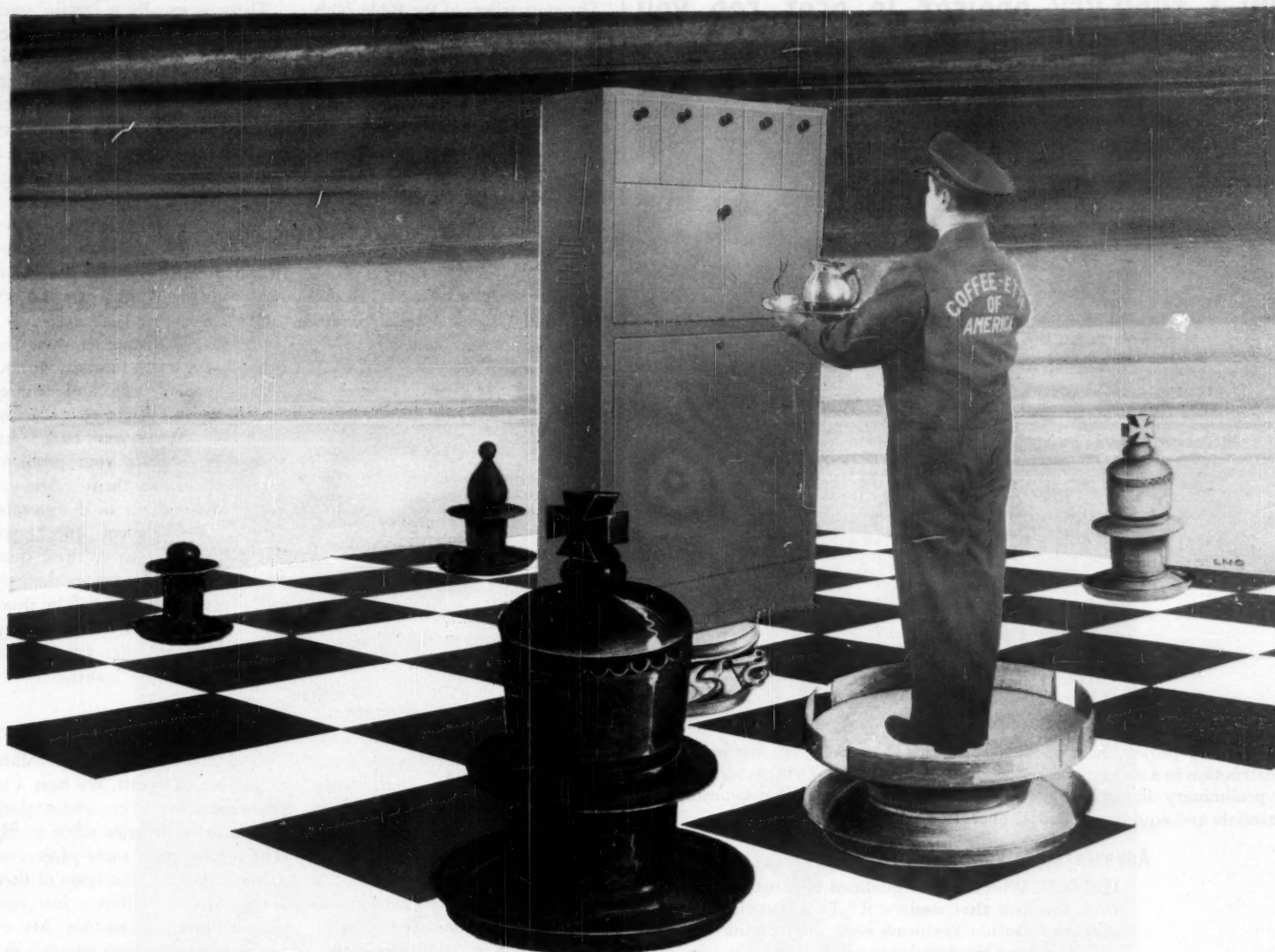
In appraising others we improve our ability to analyze ourselves. The habit of noting down your reactions to your bosses is especially helpful—and so is reviewing the notes later. What is the most important thing to look for? Opinions vary on this, but I would single out the boss' ability to develop leadership in the *men under him*. Whether he has a high or low degree of ability in doing that, you will be teaching yourself just by sizing him up.

Of the people in business itself to "study," operating managers are probably the best group. In our company—and, I am sure, in numerous others as well—these men are needled into greater effectiveness more by their jobs than, for instance, salesmen by theirs. They have more contacts; they criticize, and are criticized, more often.

They are more frequently pushed into doing the things that, you will hear many times, are important—such as "long range planning," "courageous decisions," "searching for more knowledge," "standing up to bosses where there is disagreement," and so on. In the plant there are endless opportunities for us, simply by using our eyes and ears, to garner more understanding of people and management. Also, there are probably more chances to "bleed the boss" for his own experience and interpretations of what is developing.

In *The Bible and the Common Reader*, Mary Ellen Chase states,





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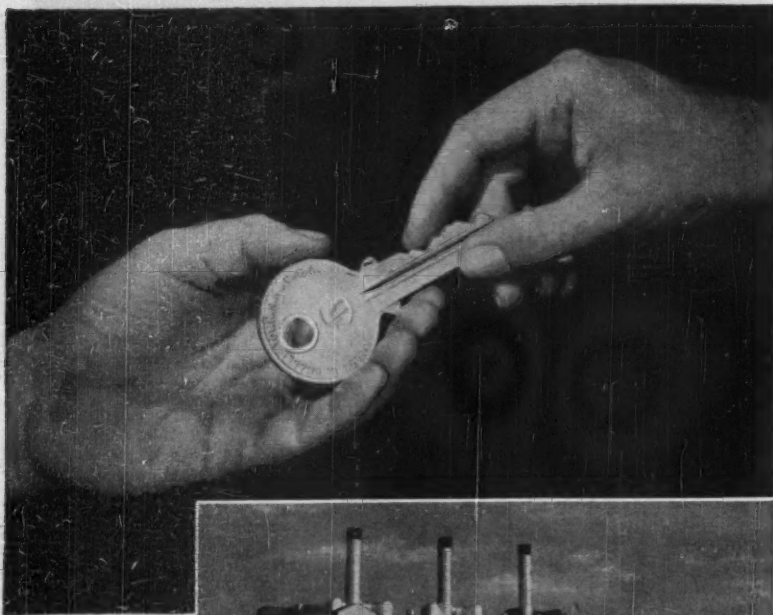
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"The story-tellers of the Bible, both in the Old Testament and the New, understood men of all sorts and conditions." It will pay the young business man, too, to make a real effort to get to know "men of all sorts and conditions," not just those he likes. This is more easily done, of course, in a small town than in a big city, in public than in private schools, and in the ranks than in the top echelons.

The man who observes in the manner described, who appraises and compares and analyzes, stands out in management.

### What's Your Goal?

What do you want out of your business life? It is hard to over-emphasize the importance of crystallizing your targets. For many, putting ideas and purposes down on paper is a "must"—and for all it is a help. Interestingly enough, if you keep the notes and review them from time to time you will probably find yourself changing some of the words and deciding that your goals are no longer the same. That means that your plans and methods of reaching the goals will change, too. In other words, for most of us our targets turn out to be moving ones, not stationary. More and more we find ourselves, in our company, asking about a man who is up for promotion: What kind of fellow is he? Is he likeable, decent, and straightforward—the kind who can function in team play, the kind we ourselves would like for a boss?

This may seem like a commonplace criterion at first blush, but it is the one, nevertheless, that decides countless companies. It is the finer, simple, obvious human qualities in a man that make us want to follow him or give him key responsibilities. We all lean to a man who is interested in people and who can rapidly develop the ability to help them grow in stature as individuals. We all like a leader upon whom we can count to be interested in our welfare.

Life's benevolences can be a terrible handicap to young men who grow up without appreciating the nature of them. Many of the senior classmen voted "most likely to succeed," and so forth, fail in achieving their end desires. Their paths have included too few sharp thorns, too few tough climbs.

There is usually a certain spirit about successful executives. They like being pushed around a bit. There is a certain amount of "rarin' to go" in their soul, if not in their manner or voice. It takes energy to advance unless the individual is one of those very rare ones—a fellow of amazing natural ability.

The successful executive does not "lie down" on his ideas, does not hesitate to stick his neck out or put his foot in the door. There is a certain spirit there.

Let me put it another way. You cannot go through business without getting some nicks and bruises. Are you going to get your scars on your chest or on your back? Are you going to face your problems or try to escape them? Are you going to stand up to disagreeable people, or let them knock you down? If you answer these questions the first way rather than the second, your advance will be much faster. Your targets will be moving faster than the other fellow's, but they will be more realistic.

### A Final Note

Find a company that is willing to gamble on youth. We hear a lot about executive ulcers, about taking on too many worries when young. There have been some ulcer cases in our company. But none of them were acquired within a few years of a youthful promotion. My experience over the long stretch is that seniors who feared the stamina of youth were wrong. More of our mistakes have come from fixed convictions than from taking a chance. More opportunities have been killed than errors made because someone answered, "The boss is against that 100%" or "That is contrary to company policy." (Usually such is not the case—another reason for fighting to see that your ideas get a fair hearing.)

It was said of Abraham Lincoln that "His powers were constantly expanding." Resolve, patient effort, and perseverance were his assets. These qualities form a wonderful basis for climbing the business ladder. The desire to learn and go on learning, to keep your powers "constantly expanding" and never to become satisfied with them, will help you more than anything else I know to pull yourself up by your own bootstraps.

THE END



SPOTLIGHT

ON SUPERIORITY



*18th Century vase in classic black and white jasper  
Courtesy, Josiah Wedgwood & Sons, Inc.*



# Rising

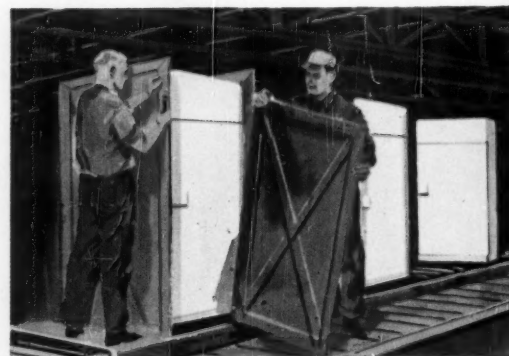
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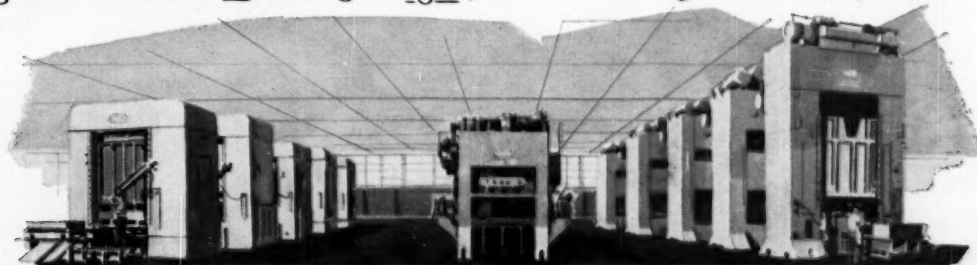
*Why the big switch to Danly? It's Danly's unique ability to start to work immediately without costly delays at installation . . . it's the capacity to produce more stampings per shift, consistently at reduced cost . . . it's Danly's remarkable record for uninterrupted trouble-free operation, month after month, requiring only routine maintenance. These are unprecedented accomplishments—and important reasons for the growing acceptance of Danly Presses in stamping shops everywhere. Every Danly Press is actually assembled and pre-tested before shipment for faster erection and operation. Integral control systems make installation a simple "plug-in" job when desired. Automatic oil lubrication saves hundreds of hours of press maintenance. Danly's extra-rugged, proven design and construction give the reserve strength necessary to meet the demands of continuous peak-load operation . . . lengthen die life, lower production costs.*

*Does this sound like the kind of press performance you need to improve your competitive position? Then it's time for you to talk to a Danly engineer. He can give you the "dollars and sense" story that will prove it costs less to run a Danly Press!*

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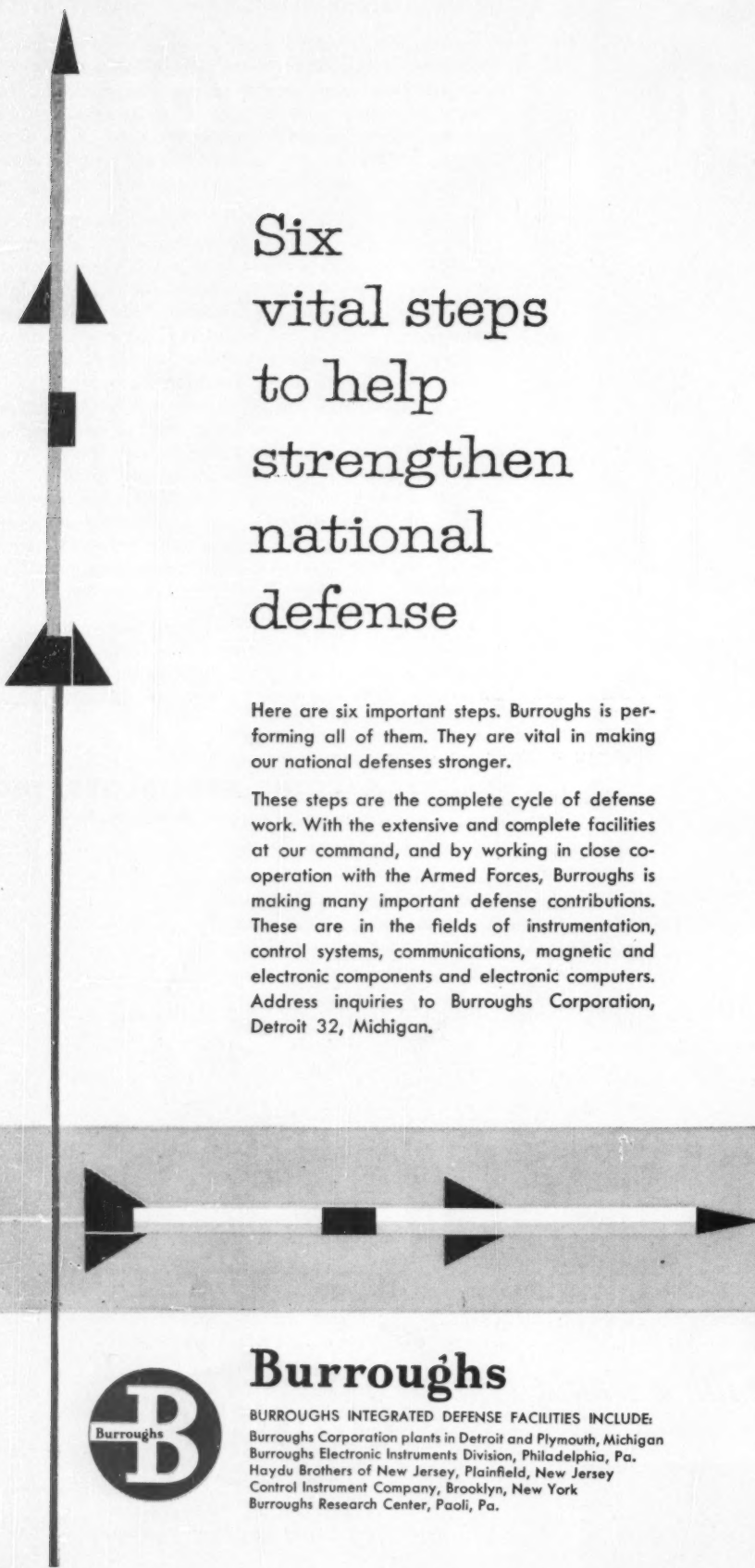
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*It costs less to run a Danly Press*



MECHANICAL PRESSES  
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# Six vital steps to help strengthen national defense

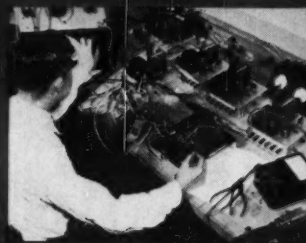
Here are six important steps. Burroughs is performing all of them. They are vital in making our national defenses stronger.

These steps are the complete cycle of defense work. With the extensive and complete facilities at our command, and by working in close cooperation with the Armed Forces, Burroughs is making many important defense contributions. These are in the fields of instrumentation, control systems, communications, magnetic and electronic components and electronic computers. Address inquiries to Burroughs Corporation, Detroit 32, Michigan.



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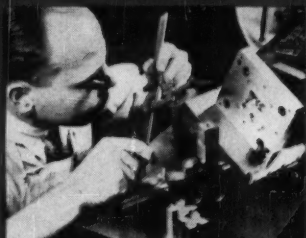
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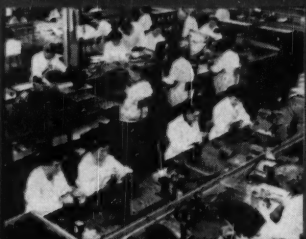
1. RESEARCH



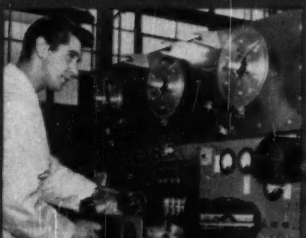
2. DEVELOPMENT



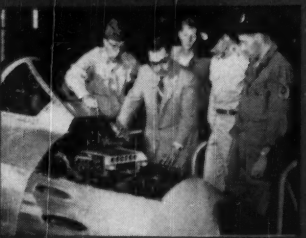
3. ENGINEERING & TOOLING



4. PRODUCTION



5. TESTING



6. FIELD SERVICE & TRAINING



ANNESTA R. GARDNER

## How to save on production and improve products

### Look what they're doing with paper

Nylon paper that's so tough it's nearly impossible to tear; glass fiber papers that laugh at heat and chemicals; and Kraft that shrugs off oil and grease are among the modern "miracles" coming from one of our oldest industries.

Riegel Paper Corp, 260 Madison Avenue, New York 16, for instance, has two new and interesting types: One is the nylon paper; the other a paper which, Riegel says, acts as a barrier to oil, water, and other liquids; yet lets air pass through freely. Riegel is looking for uses for this one (popcorn bags, perhaps, that will contain grease, but can't be blown up and popped in theatres?); but the company already has plenty of ideas for putting the nylon paper to work. Among them: filters, heavy-duty bags (particularly for materials that destroy ordinary paper), maps and tracing papers (dimensional stability is said to be excellent).

Samples of both papers are obtainable from Riegel; and the company also has a catalog file of unusual papers to which it plans to add one new item each month. A request (on company letterhead) to Mr. Floyd Triggs at the above address will bring a "starter set" and get you on the mailing list.

### You can contribute, too

Dealing with the paper industry is a two-way street. There are ideas for new products and new markets, as well as new supply sources to be found.

As a matter of fact, the paper industry has quite a list of improve-

ments it would like to see made.

Talking to the Western Chemical Market Research Group of the American Chemical Society, Dr. W. F. Holzer of Crown Zellerbach Corporation noted fourteen improvements the chemical industry might contribute. Among them:

- A chemical solvent for lignin (the "cementing" material that holds wood fibers together) which would make it possible to obtain this material in more usable form. Lignin compounds do have some uses now, but they could find many more if it were easier to separate them from wood wastes.

- Additives to increase paper strength. As Holzer points out, "cellulose fibers have strengths ap-

proaching that of steel," but it is the fiber-to-fiber bonds that limit the strength of paper. Wet-strength resins are a good beginning; but much more could be done.

- An inexpensive treatment to make paper transparent.

- A flameproofing agent that would be low in cost, non-corrosive (to metal products wrapped in paper), and which would not affect other properties of the material.

### Here's news in aluminum

Foil that's better than 99.9 per cent pure, a weldable alloy for structural use, better metal for casting, and a new flame-cutting process . . . these are only a few of the



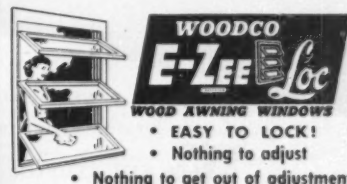
Flame cutting makes news in aluminum fabrication. With this new Linde Air Products *Heliarc* process, it is possible to slice through even inch-thick sheets at the rate of 50 inches a minute, cut shapes, and bevel edges. Equipment for mechanized as well as manual cutting has been developed.

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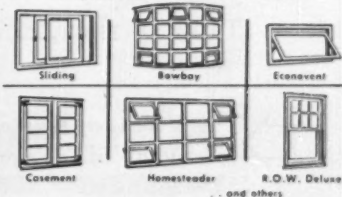


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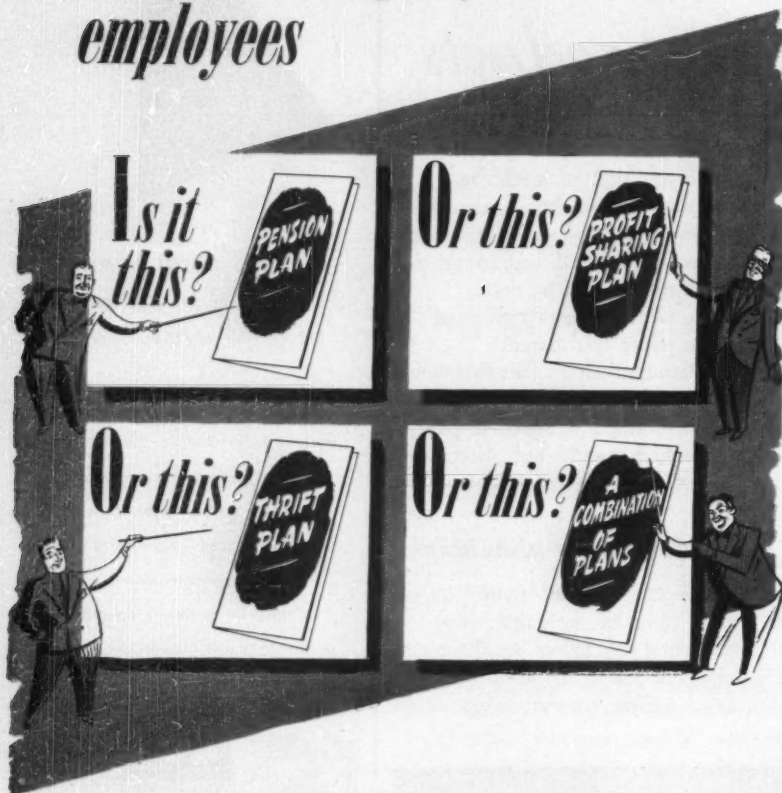
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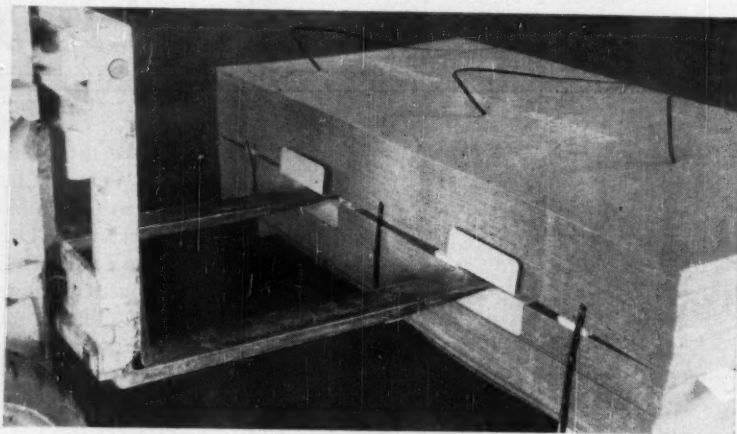
ways in which aluminum is making news—for industry.

The foil is being made specifically for electronic use (in capacitors) by Kaiser Aluminum & Chemical Corporation's Permanente plant. But

the pig from which it is rolled also offers the chemical and petroleum industries a new source of high-purity metal for catalysts; and might well supply the jewelry industry with material that takes a far

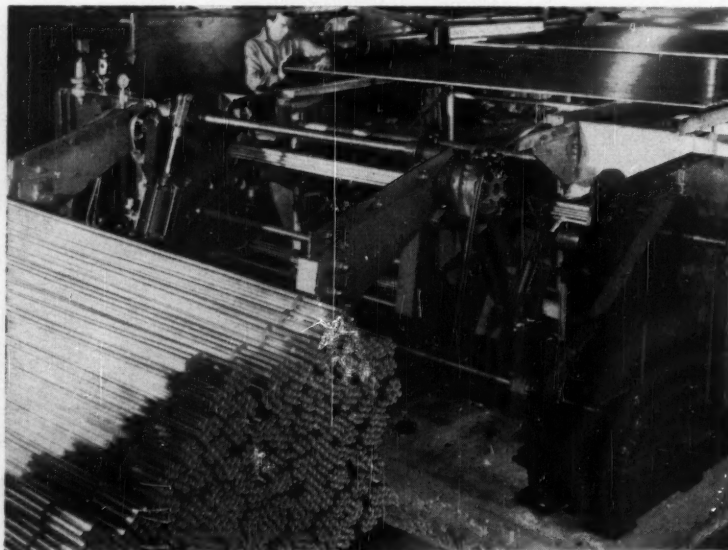
### Bands that save

How to ease customers' handling problems without creating new ones in your own plant; give better service at lower cost? These companies do an effective job with bands of tape and steel.



Masonite Corp. has big, 3,300-pound fork trucks. But not all of its customers do. Could it take full advantage of its own equipment without penalizing the receiver? The picture shows that it can—and does. Four small steel plates and a few lengths of Signode steel strapping solved the problem. Instead of packaging hardboard

products in one big pile, Masonite puts them up in sections, separated by the steel plates as shown, but strapped into a unit load for shipment. Customers who can't handle the full load all at once just cut the straps, insert truck forks between the plates (using a special fork adapter) and carry off as much as they need.

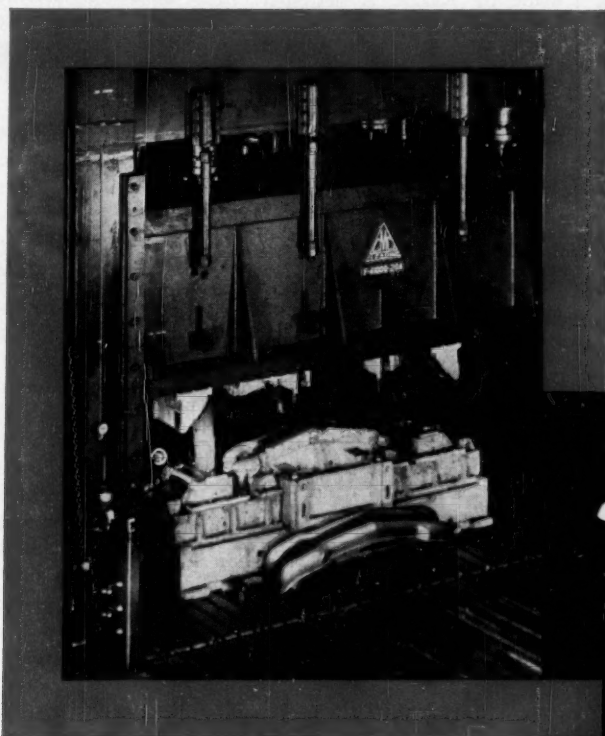


Spang-Chalfant Division, National Supply Company, had a somewhat different problem: bundling steel tubes in various-sized groups. The old manual, tying-with-twine method was costly and far too slow. The machine pictured here solved the problem. After inspection, the tubing flows to the bundler

by gravity, and the operator lets the desired number of tubes drop into a V-shaped cradle. At the press of a button, a manipulator shakes the tubing down and holds it in position while pressure-sensitive tape is applied. The bundle is then automatically ejected from the machine.



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## Baltimore & Ohio Railroad

Constantly doing things — better!

better finish than standard-grade aluminum sheet (see August 1953, page 51).

### New alloys

The weldable alloy, also being made by Kaiser, is designed "to compete with mild steel in fabrication and welding costs." Designated number 5053, it contains 4.45 per cent magnesium, and small amounts of manganese and chromium. One of the first applications is in an all-aluminum flat bed truck trailer, designed by Kaiser and built by Beall Pipe & Tank Corp. It's said to weigh less than 8,000 pounds, yet to have a pay-load of 45,000 pounds. Other uses for this new alloy: overhead cranes and boat hulls.

From Revere Copper and Brass comes a new high-strength alloy (6263) for electrical use. It's a magnesium silicide alloy which, Revere reports, combines light weight with "mechanical properties approaching those of copper, and electrical conductivity approaching that of EC aluminum."

Still another interesting new alloy is Alcoa's X2219, aimed at the thermal barrier which limits aluminum's use in supersonic aircraft. Alcoa says extrusions and forgings can be used at temperatures of 500° to 600° fahrenheit.

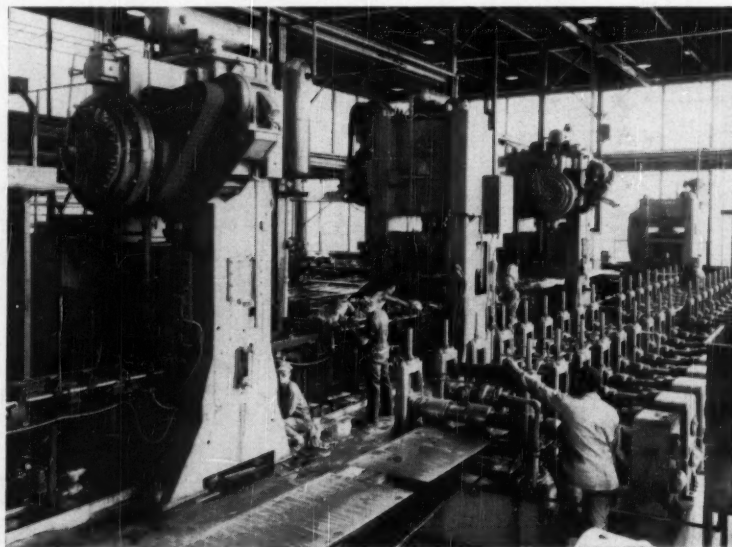
### Castings

Aluminum castings of better quality are promised by new automatic, continuous, in-line melting units. Monarch Aluminum Manufacturing Company, Cleveland, Ohio has one of the first, installed by Selas Corporation of America. J. H. Keating, Monarch vice-president, expects that the new line will permit much better control of casting quality, and better, faster service to Monarch's customers.

### Finishes

For enameling, Minnesota Mining and Manufacturing Company is field-testing a new lead-free frit; and Ferro Corporation is working on enamels for aluminum foil. It has an enameling pilot plant in operation now, and samples are available for testing.

Plastic finishes for protecting aluminum under tough operating conditions are being developed by Eastman Chemical Products. First of these to be placed on the market (by Egyptian Lacquer Company) is a transparent, weather-resistant cellulose acetate butyrate coating specifically designed for aluminum truck trailers and other over-the-road equipment. Eastman says it can be applied with standard spraying equipment in a single coat,



### They turn steel sheets into landing mats

Three hundred tons of landing mats can roll off this automatic production line at Mesker Bros. Iron Company each day—a tribute to the accomplishments of modern machines, materials handling equipment, and engineering skill. Here, a 17-stand Yoder cold rolling mill (center) puts four ribs in each

sheet of steel; then Clearing presses and Verson press-brakes pierce, trim, and swage the metal. Advantages of the set-up? Says Louis A. Hamilton, Mesker Bros. plant manager: uniformity of produced shape, high production rate, simplified waste disposal, and minimum physical effort.



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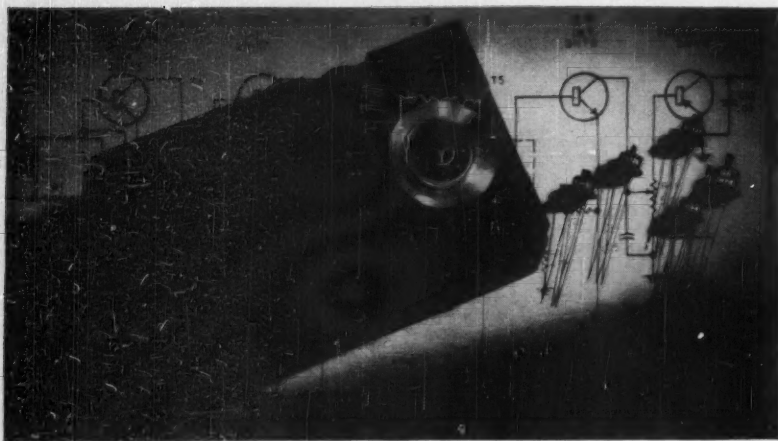


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### NOW IN COMMERCIAL RADIO CIRCUITS

In the circuit above, the 2N136 is used as a converter—its 5 MC minimum alpha cut-off assures stable oscillator performance and high conversion gain. The 2N137—with 7 MC minimum alpha cut-off—provides 33 db gain at 455

KC. The high frequency 2N135 offers a higher collector voltage rating for the second IF where it is needed. The 2N78 NPN transistor—originally designed for computer and RF circuitry—proved ideal as a power detector and audio amplifier to drive a 2N44 power output transistor with direct coupling.

### PRODUCTION QUANTITIES AVAILABLE

General Electric's new high frequency line is in mass production now. Detailed characteristics and specifications of the G-E 2N135, 2N136, and 2N137 transistors may be obtained upon request. Your G-E Semiconductor specialist and our factory application engineers have the answers to your transistor radio circuit questions. Call them in, or write: *General Electric Co., Semiconductor Products, Section X78115, Electronics Park, Syracuse, N. Y.*

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needs no primer, airdries in less than 15 minutes, and shows excellent adhesion. Eastman reports, too, that field tests indicate the coating will last a good two years under normal conditions, and that it will not only protect the base metal from corrosion, but also make the trailer easier to clean.

### *From garments to gaskets with nylon*

Nylon fibers are finding a lot of new jobs besides paper making (see page 85 and also September, page 63).

Gustin - Bacon Manufacturing Company uses nylon fibers bonded with Bakelite phenolic resins to make a new resilient padding material for overshoes, automobile interiors, lubricating gaskets, and instrument cases. The material, called *Nylabond*, is said to be strong, light in weight, and resistant to water, solvents, and petroleum oils. It is made in several densities from one to six pounds a cubic foot, and in thicknesses from one-fourth of an inch to two inches.

Amerotron Corp. is introducing a line of nylon fabrics specifically designed to serve as a base for weatherproof protective coverings. Coated with neoprene or vinyl plastic, these fabrics will weigh less than half as much as cotton tarpaulins now used, Amerotron says, yet should last twice as long, and be three times as resistant to tearing.



### *Tumble painting*

A ten-gallon paint can, a simple rotating fixture, and a dual spray gun are saving many hours of painting time on small parts at Martin. Instead of painstakingly placing each part on a screened painting table, the operator just dumps them into the container (it has baffles

For the consumer field, there are two new nylon yarns, Du Pont's *Taslan* and Textured Yarn Company's *Tycora*. Taslan's filaments are mechanically looped to give added bulk and coverage. Tycora's fibers are continuous filaments that have been modified by a new process so that the yarn looks and feels like a spun yarn, yet has no loose ends to catch and pull. Shape-retention is said to be improved, too.

### *Cutting with ceramics*

Ceramic cutting tools, under study here and in England for a good many years soon may be ready to take their place in industry's tool kit.

At the recent Production Engineering and Machine Tool shows, Carboloy showed cemented oxide cutting tools and Norton Company exhibited aluminum oxide tool tips which, they said, are doing remarkably well in machining tests, and make it possible to double or triple cutting speeds.

Norton's tool tips, made of the company's *Alundum* material, have been tested at Watertown Arsenal on both brass and cast iron. Studies here, and at Norton and Carboloy laboratories, indicate that heavy, rigid tool holders help to minimize breakage of the still-somewhat-brittle ceramic tips, and make it possible to take advantage of their hardness, high temperature strength, and wear resistance.



inside, a screen at one end, and an opening at the other) and alternately sprayed with paint and air (at six-second intervals) as they tumble. Complete cycle, including loading and unloading, takes about two minutes. This is experimental unit. Production model is being designed.



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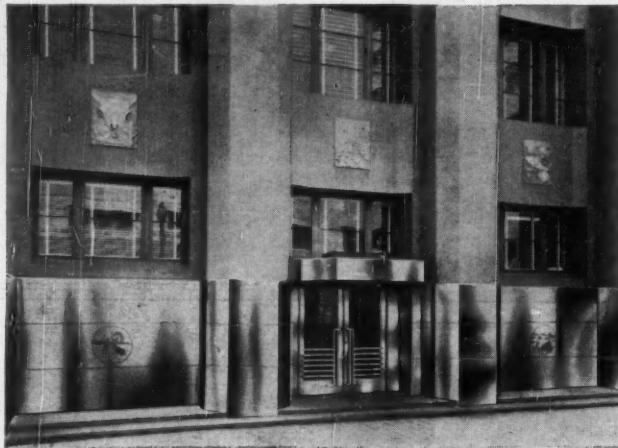
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Oliver Bldg., Pittsburgh 22, Pa.

Make it **BETTER**-and **LONGER LASTING**  
with **Allegheny Metal**

WAD 5209

Warehouse stocks carried by all Ryerson steel plants





Marketing notes and comments

## FAST TAKES ON CURRENT TRENDS

*Teamwork on package design, electronics in sales, adman cuts up painting, opinions of salesmen's wives*

### ADVERTISEMENTS

using art from the higher altitudes—a stark spotlight focusing on a piece of abstract sculpture—are appearing in greater number in ads for products ranging from diamonds to beer.

For several years, a small upstate New York insurance company has been having outstanding results using paintings by nationally-known painter David Martin Stone. Or rather, one painting which looks

different in every advertisement.

Sales promotion Manager Len Watson of the Security Mutual Life Insurance Company uses a technique that makes a limited advertising effort go a long way.

This year, for instance, Stone painted a scene in a crowded railroad station. For each ad, however, black and white line cuts from only one portion of the scene are used—a father tying his boy's shoelaces, or a couple embracing—thereby keeping down the cost of art and also holding a consistent tone for the entire series.

Watson keeps fine art out of the institutional advertising approach by offering a reproduction of the ad. Response this year is well into the thousands. He uses this as a partial readership measurement and as a follow-up for agents, who get a carbon of the mailing label. Watson thinks using high class art brings a higher quality prospect to respond, says that interviews result "in either an immediate sale or a referred lead with a high conversion rate."

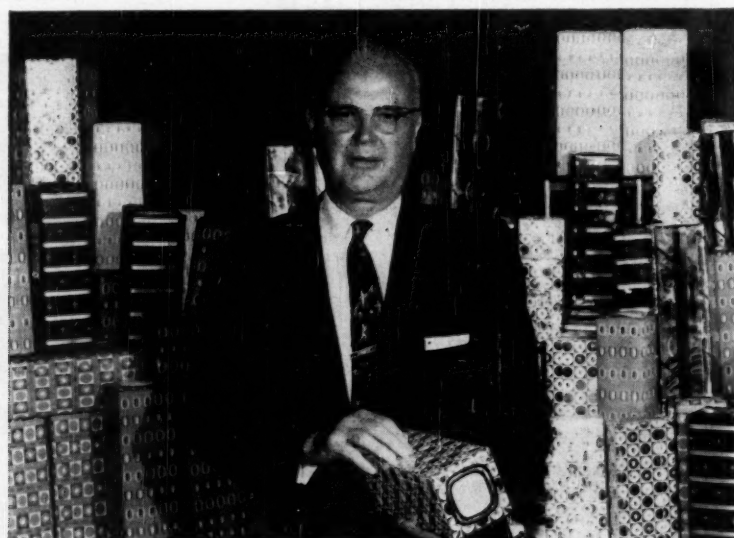
### New rôle for sales V-P's

Though it's still possible to count all the directors of marketing you can recall without drawing a very deep breath, the fact remains that more and more larger companies are creating such posts to co-ordinate all related marketing activities.

Typical is the Celanese Corporation of America, which this Fall integrated its marketing department, pulling together six departments and, inevitably, creating a new one. The six are textile sales, merchandising and advertising, industrial sales, market research, customer service, and export sales. The new department is applications and product development.

A Marketing Committee, in turn, co-ordinates the marketing department with other departments in the Textile Division. The committee is made up of brass from the marketing, manufacturing, technical, and controller's departments.

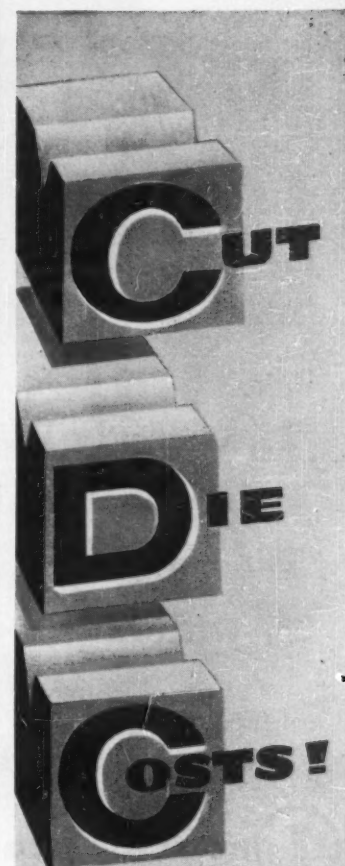
The trend towards centralizing responsibility while broadening the scope of the sales executive's functions is neatly capsulized by the sequence of positions formerly held



### How to buck industry packaging trend, wrap up sale

While most companies in the liquor industry (or "distilled spirits industry," as it prefers to be called) are desperately trying to out-decanter each other in another bid for the gift giving trade, Hiram Walker sells only a limited number and those in only its "DeLuxe" brand. Instead, the distillery, one of the big four, is putting its money this year in gift wrappings.

To get them, Walker had to have special machines designed that form a carton around a bottle, wrap that in paper, tie a ribbon around it, and cover it all with cellophane. Machines turn out a neatly wrapped package a second. No ads appear on the wrap or on the carton; each brand has its own design. Says Walker: "We're in liquor, not glass."



Now—Volume die production brings new manufacturing economy! Leaders in automotive, aircraft and forging industries profit from CUSTOM DIE'S proven low-cost dies for

- forging
- casting
- drawing
- forming
- stamping
- extruding

Write for full particulars  
Dept. B

**C**  
CUSTOM DIE COMPANY  
619 May Street  
Lansing, Michigan



# Wing

## REVOLVING UNIT HEATERS

**The Slowly Revolving Distributor  
Lays a Blanket of Pleasantly  
Warmed Air in the Working Area,  
without Blowing Constantly  
on Anyone**

**NO SICKENING HOT BLAST!**

### **1** One of the **5** reasons why you should install **REVOLVING** heaters

Here are the others:

**2** Revolving discharge quickly warms up room or building on cold mornings or after week-end shut-downs.

**3** Machinery, stored merchandise, or repair pits cannot obstruct distribution of heat or hold pockets of cold air.

**4** Workers are comfortably invigorated by the gentle

movement of live, pleasantly warmed air.

**5** Operated in the summertime, with steam off, the gentle movement of room temperature air creates a pleasant cooling effect even on hottest days—and this is an important consideration.

**L. J. Wing Mfg. Co. 315 Vreeland Mills Road, Linden, N. J.**

Factories: Linden, N. J. & Montreal, Can.  
In Europe: WANSON, Haren-Nord, Brussels, Belgium

# Wing



L. J. Wing Mfg. Co., Linden, N. J. DR-11  
Please send me Bulletin HR-6A-Revolving Heaters

Name.....  
Firm.....  
Address.....  
City..... Zone..... State.....

by Celanese's new Director of Marketing. He has been, consecutively, general sales manager and general merchandising manager.

### *No salesman is a hero to his . . .*

A thousand replies to a questionnaire sent to salesmen's wives by the American Trucking Associations and the Research Institute of America suggest that the concept management holds of the sales personality is very different from that entertained by the salesman's wife.

Question: "Which one of these factors is most important to your husband's success on the job?"

"Hard work on his part," answered only 26 per cent of the wives, and 32 per cent thought it was selling ability.

Question: "Do you think salesmen, generally, are . . ."

Only 24 per cent thought salesmen were shrewd, 19 per cent would allow salesmen were tenacious, but less than half thought salesmen were clever. The percentage jumps to 92 when the word "friendly" is mentioned.

As for their sons' career, only 9 per cent of the wives would suggest selling. And only 7 per cent are enthusiastic about the typically

irregular working hours.

No wife, incidentally, thought the company's training program was most important to her husband's success.

Though nearly half thought the front office thoroughly understood her husband's problems, one-third of the wives answered "No" to this one.

### *Office moves into sales*

About a year from now, the Carborundum Company will begin to switch over all of its paper work to a centralized electronic file computer. Eventually, it will service all twelve divisions and subsidiaries in the U.S. President Robinson points up in his comments that paperwork means facts, facts mean foresight, and foresight means more sales. Says General Robinson: "The new system will give management the facts they need when they need them. It will give management important facts not presently available. It will make possible better planning and sharper management control of the business. It will expedite customer service and be a tool for increased sales. Its purpose is to help increase the growth and profitability of the business."

J. K. BLAKE



### *How many different people design a pack of cigarettes?*

Designer Edmont Arens, above, is pointing to the final design for the new Philip Morris package. Arens, who estimates that he and his team drew up more than 1,000 designs, was one member of an alarmingly large group of experts contributing to the final jacket design.

There was, for instance, the Color Institute of Chicago, which determined that colors red, gold, and white should be used—red because it is stimulating, gold because that is associated with elegance and quality, and white because it reinforces age-old

connotations of mildness and purity.

But, before the color men caught hold of it, Elmo Roper Associates had interviewed 10,000 families and found that mass color preferences are shifting. People like brighter colors today, and a pack must have a strong image for greater TV impact.

Other researchers, using hidden cameras and special one-way mirrors, cannily observed unseen consumer reaction to the new package during field tests. Total score: five outside research organizations, one designer, and the company itself.



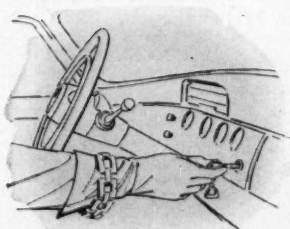


## Nothing stubborn about starting the modern car

Today, you've got sure-fire "starts" built into your car—thanks to your storage battery. And Eagle-Picher Lead Oxides play a vitally important part in making that battery an eager, dependable performer in all kinds of weather. Even in freezing mid-winter temperatures.

You can be sure that Eagle-Picher quality con-

trol, from ore to finished product, is backed by research exploring new and more effective ways of utilizing lead oxides. What's more, Eagle-Picher is constantly working with America's leading manufacturers of storage batteries, who share this enthusiasm for progress in improved battery performance.



**Lead Oxides for storage batteries are among hundreds of Eagle-Picher products for homes and broadly diversified basic and growth industries.**

Divisions and principal products . . . **PIGMENT DIVISION**, lead and zinc pigments and oxides—**MINING & SMELTING DIVISION**, zinc, lead, germanium, cadmium—**INSULATION DIVISION**, aluminum combination storm windows and doors, mineral wool insulations, diatomaceous earth products—**OHIO RUBBER COMPANY DIVISION**, molded and extruded rubber products—**FABRICON PRODUCTS DIVISION**, automotive products, plastics, waxed paper and cellophane food wrappers. *We welcome opportunities to share our research, production and application experience. Just drop us a line.*



Since 1843

# EAGLE-PICHER

The Eagle-Picher Company • General Offices: Cincinnati 1, Ohio

ONE OF A SERIES

You Get Many Benefits  
by Specifying **VICKERS** Hydraulics



service  
repair parts  
replacement equipment

## Within Easy Reach of Your Export Customers

Mindful of the fact that capital goods (much of which is Vickers equipped) constitutes 25% of U.S. non-military exports, Vickers is actively building up its export representation. In the panel at the right, are listed the organizations which represent Vickers abroad.

Each of these is equipped to supply engineering information, service, parts, and replacement equipment for the Vickers Hydraulics on the machine tools, industrial machinery and mobile equipment you send abroad. This added convenience is important to your customers... hence an important sales factor in your export business.

This is another way in which you get added value when you specify and buy Vickers Hydraulic Equipment.

### VICKERS INCORPORATED

DIVISION OF SPERRY RAND CORPORATION

1424 OAKMAN BLVD. • DETROIT 32, MICH.

#### Application Engineering Offices:

ATLANTA (ATwood 0187) • CHICAGO (Hunter 5-0300)  
CINCINNATI (Main 1-1756) • CLEVELAND (Superior 1-4638) • DETROIT (Diamond 1-0990) • HOUSTON (Jackson 2-9623) • LOS ANGELES AREA (El Segundo-Oregon 8-2503) • MINNEAPOLIS (Geneva 5646) • NEW YORK AREA (Summit, N. J.—Summit 6-7960)  
PHILADELPHIA AREA (Media—Media 6-5300)  
PITTSBURGH AREA (Mt. Lebanon—LOcust 1-3504)  
PORTLAND, OREGON (Filmore 9446) • ROCHESTER (LOcust 5384) • ROCKFORD (2-0615) • SAN FRANCISCO AREA (Berkeley—Ashberry 3-1997) • SEATTLE (Seneca 817) • ST. LOUIS (Parkview 1-4311) • TULSA (Diamond 3-8655) • WASHINGTON (Executive 3-2650)  
WORCESTER (PLeasant 3-7736—6-5281)

IN CANADA: Vickers-Sperry of Canada, Ltd., Toronto

### VICKERS Export Representation

#### AUSTRALIA

Industrial Service Engineers  
Pty., Ltd.

Ashley Street, Braybrook W. 19  
Melbourne, Victoria

#### BELGIUM

Fenwick (S.A.) Belge

68 Quai de Rome  
Liege, Belgium

#### CANADA

Vickers-Sperry of Canada Ltd.

156 Evans Avenue  
Toronto 14, Ontario

#### DENMARK

Akts. Nordisk Væditor

14, Tordenskjoldsgade  
Copenhagen K, Denmark

#### ENGLAND

Stein & Atkinson, Ltd.

Universal House  
60 Buckingham Palace Rd.  
London, S.W.1, England

#### FINLAND

Ins. Isto. H. Auramo

Fabianinkatu 13  
Helsinki, Finland

#### FRANCE

Fenwick S.A.

8 Rue de Rocroy  
Paris 10<sup>e</sup> France

#### HAWAII

Hawaiian Equipment Co.

2880 Kilihaui Street  
P. O. Box 2990  
Honolulu 2, Hawaii

#### ITALY

Societa Fenwick

Viale Vittorio Veneto, 16  
Milan, Italy

#### JAPAN

Tokyo Keiki Seizoshu Co., Ltd.

31, 4 Chome, Higashi-Kamata  
Ota-Ku, Tokyo, Japan

#### NORWAY

Væditor A/S

Post Office Box 127  
Ski, Norway

#### SOUTH AFRICA

Hydraulics (S.A.) Ltd.

P. O. Box 111  
Paarden Eiland  
Capetown C.P., So. Africa

#### SPAIN

S.A.M. Fenwick

Bruch 96  
Barcelona, Spain

#### SWEDEN

AB Specialpumpar

Goteborg, Sweden

7302

ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921



# Executive BOOKSHELF

THOMAS KENNY

## Have a Little List?

Are you still vexed by the problem of what to give your customers, distributors, business associates, employees, and others for Christmas? Perhaps books are your answer.

Business men are turning increasingly to gift books to solve this problem. Last year more books were used for company gifts than ever before. According to *Sales Management* magazine, companies reported that of 23 items which made the biggest hit with recipients during the past five years, books ranked number four and were topped only by fruit, cheese, and cutlery. A survey of business men's gift preferences by a publishers' as-

sociation placed books at the top of the list.

Besides being a welcome addition to any library and incidentally, pleasing to the entire family, gift books can reflect your awareness of the recipient's special interest. In addition to the subtle flattery of giving a book, there are other advantages: gift books are easily exchangeable and will be a permanent reminder of your thoughtfulness, long after edibles are no more.

Bookshops in many cities will gift-wrap and mail your selections at no extra cost. If you like, you can leave the chore of choosing titles to your bookseller by telling him of the particular interests of those on your Christmas list. There are new gift books on such diverse topics as opera, golf, ghosts, railroading, architecture and many oth-

ers. You can get a list of co-operating bookshops from American Book-Stratford Press, Inc., 75 Varick Street, New York 13, N.Y.

In the box below are some of the outstanding volumes from the new crop of gift books for this season. All but one, *Dealer's Choice*, are large-size (about 9 by 12 inches) and lavishly illustrated.

## To Banish Problems

THE ART OF PROBLEM SOLVING by Edward Hodnett. Harper and Brothers, 49 East 33rd Street, New York 16, N. Y., 202 pages, \$3.50.

Human beings like to solve problems. Otherwise how can you explain people who play chess, climb mountains, and offer to open folding bridge tables?

Thus Professor Hodnett introduces the art of solving problems,

## Here are suggested titles for Christmas gifts. (See above.)

PICTORIAL HISTORY OF AMERICAN PRESIDENTS by John and Alice Burant. A. S. Barnes and Company, 232 Madison Ave., New York 16, N.Y., 320 pages, \$10.

A delightful volume of wide appeal, this bit of Americana gains added interest from its timeliness. Nearly 600 photographs, prints, and cartoons, many never before published, delineate the Presidents from Washington to Eisenhower, as well as the events, both momentous and frothy, of their eras. Shadowy, forgotten figures such as Fillmore, Pierce, and Arthur move again into the light. Written in a deft informal manner, the book reveals many little known facts (Grant had an aversion to hunting) and is remarkably free of the legends which frequently encumber stories about our Presidents.

ENCYCLOPEDIA OF PAINTING, edited by Bernard S. Meyers. Crown Publishers, Inc., 419 Fourth Avenue, New York 16, N.Y., 512 pages, \$10.95.

Subtitled "Painters and Painting of the World from Prehistoric Times to the Present Day," this giant volume contains 1,000 illustrations, 216 in full color, which have been culled from collections throughout the world. It provides a lexicon of technical terms, discussions of Impressionism and other movements, and biographies of many artists.

CIVIL WAR IN PICTURES by Fletcher Pratt. Henry Holt and Company, 383 Madison Avenue, New York 17, N.Y., 256 pages, \$10.

Bufs of the War Between the States,

whose number is legion, will probably consider this the most desirable of gift books this season. It contains about 300 contemporary drawings of the Civil War by Winslow Homer and other artists who worked for *Harper's Weekly* and *Frank Leslie's Illustrated Newspaper*, the picture magazines of that period. Much of the text, as well as many of the drawings, have not been reprinted since the Civil War. This volume provides an opportunity to see the Civil War as the eyewitness-artists saw it and also as did the folks at home.

THE FIELD & STREAM TREASURY, edited by Ross McCluskey. Henry Holt and Company, 383 Madison Avenue, New York 17, N.Y., 392 pages, \$5.

This should provide many pleasant indoor hours for the outdoor type. It contains stories, articles, and illustrations which have appeared in *Field & Stream* magazine since 1895. Among the many contributors are Zane Grey and Irvin S. Cobb.

MATHEW BRADY: HISTORIAN WITH A CAMERA by James D. Horan. Crown Publishers, Inc., 419 Fourth Avenue, New York 16, N.Y., 256 pages, \$7.50.

This new life of America's pre-eminent photographer contains 500 pictures, many never before published, of Civil War scenes, leading figures, and American life in the Nineteenth Century. This should be a most welcome gift for amateur photographers, collectors of Americana, and Civil War fans.

SPORTS CARS by John Wheelock Freeman and Alexandre Georges. Random House, Inc., 457 Madison Avenue, New York 22, N.Y., 192 pages, \$12.50.

More than 250 photographs, 38 in color, catch the racy lines of the latest European and American sports cars. The author and photographer visited factories, interviewed designers, and gathered technical data on each model to provide sports car enthusiasts with the most complete and up-to-date picture of the field.

DEALER'S CHOICE: THE WORLD'S GREATEST POKER STORIES, edited by Jerry D. Lewis. A. S. Barnes and Company, 232 Madison Avenue, New York 16, N.Y., 277 pages, \$3.95.

This should bring a royal flush of pleasure to the poker devotee, for it contains dozens of stories by Benchley, Thurber, Twain, Hemingway, O. Henry, and others, as well as inside information on how to play and not to play, by Oswald Jacoby and Russel Crouse.

AMERICAN HERITAGE, edited by Bruce Catton. American Heritage Publishing Co., 551 Fifth Avenue, New York 17, N.Y., six issues, \$12.00.

This bi-monthly magazine in book form (hard-cover) presents colorfully illustrated and lively articles by scholars and others for the supreme delight of the thousands of people with a real affection for American history. The first issue, which will arrive before Christmas, comes gift-wrapped and with an announcement of the five other issues.



Are you hiding  
behind a  
COPPER CURTAIN?



Are you so awed by modern  
science that you are placing  
greater trust in copper coils  
than in a human being?

Your flesh-and-blood watchman, supervised by a DETEX GUARDSMAN watchclock system, smells and stamps out small fires before they spread, traces escaping fumes, removes dangerous wastes, clears fire exits, checks sprinkler valves...can you say the same for a mechanical device, no matter how ingenious?

The GUARDSMAN supervises your watchman day and night, weekends and holidays, keeping him alert in the exercise of human judgment in the protection of your plant. The GUARDSMAN saves you money in supervisors' overtime, cuts your insurance premiums. If you are using a dial clock which is more than five years old, it is urgent that you modernize with a GUARDSMAN.

Detex Watchclock Corp.  
76 Varick Street  
New York 13, N. Y.

☐ Please send me complete information about the GUARDSMAN tape-recording watchclock.  
☐ You may send a DETEX representative to make a free, no-obligation survey of our plant protection needs.

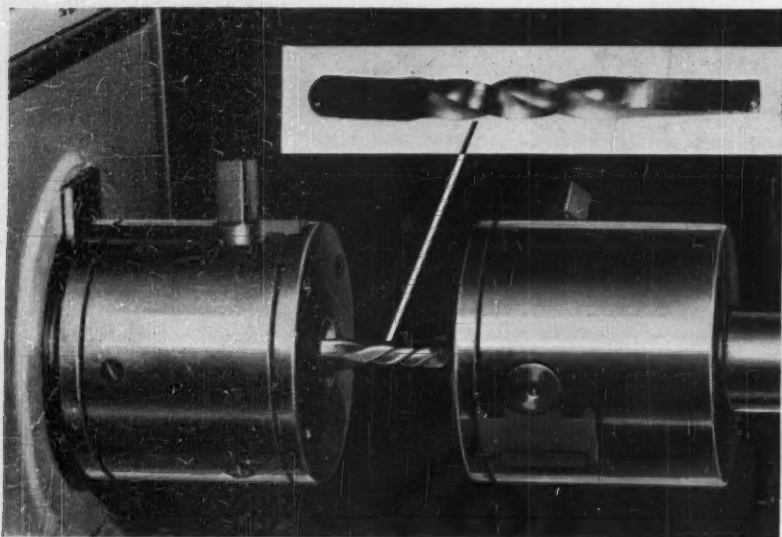
Name.....

Company.....

Address.....

Title.....

## IN POWDER METALLURGY...IT'S AMPLEX



New STEEL OILITE'S unusual ductility is demonstrated in this photo of a typical torsion test. This material was developed by Chrysler for applications requiring extreme ruggedness.

## NEW Ductile STEEL OILITE® Opens Up New Uses for Powder Metals

STEEL OILITE is a new and revolutionary Chrysler developed die-pressed powder metal with ductility and strength in the range of low carbon steel (elongation values up to 15%; tensile strength from 35,000 to 120,000 PSI).

Its unique physical properties make considerable savings possible for countless new applications. One customer reported savings of 96%. Eliminates most machining operations.

STEEL OILITE may be hardened, machined and staked using conventional methods. Developed by Chrysler-Amplex engineers, STEEL OILITE has been production and field tested for over 18 months.

The engineering facilities of Amplex and Chrysler, unmatched in the powder metal industry, are ready to help you. Call or write today for STEEL OILITE information.

### Chrysler-Amplex Products

**OILITE Bearings**

**Finished Machine Parts**

**Permanent Metal Filters**



Write today for new STEEL OILITE Bulletin STM-54. It's yours for the asking.

*Only Chrysler makes OILITE*



**CHRYSLER CORPORATION  
AMPLEX DIVISION**

Dept. W-11

Detroit 31, Mich.

one of the prized techniques for which executives are most highly rewarded. He demonstrates that certain specific rules should be followed whether you are faced with a problem in company business, or in your personal life. By the use of many apt anecdotes, the author shows how you can improve your methods of solving problems.

### Not 1984 at All

UTOPIA 1976 by Morris L. Ernst. Rinehart and Company, 232 Madison Avenue, New York 16, N. Y., 305 pages, \$3.50.

In contrast to the recent spate of statistical and economic studies on the future of the economy, this provocative volume translates the coming changes into every-day terms. Written in measured optimism by a well-known lawyer and author, this study is no visionary's vision, but rather the considered extension of many present trends.

Since the author compares the Elysian era of 1976 to our own and discusses inadequacies to be overcome, some feathers are bound to be ruffled. However, he is a stout defender of competition, both corporate and individual, and looks for a resurgence of regional and local responsibility to offset the growth of large business and government.

Among the aspects of the good life in 1976, which the author describes in a free-wheeling fashion, are home life, education, business, government, food, and peace. Should he prove oracular, this volume will have pointed the way to many choice markets in the years ahead.

### Ads at Work

HOW TO MANAGE INDUSTRIAL ADVERTISING by Franklin W. Bartle. Printers' Ink Books, Pleasantville, New York, 158 pages, \$3.95.

Since about \$1 billion will be spent this year on industrial advertising, it is rather odd that there are so few books on this topic. Now, however, the advertising manager for the Permacel Tape Corporation has written a brief but comprehensive study of the entire field to show you how to get the most out of your industrial advertising dollars.

It is particularly valuable for the sales manager who must double as

## Safeguard Your Business Secrets

Now you quickly and easily destroy confidential papers and obsolete records right in your own office.

**NEW SHREDMASTER**

**Bantam 10**

Portable shredding machine designed especially for office use, the size and weight of a business typewriter!



The only office paper shredding machine that destroys confidential papers quietly and cleanly. Greater capacity, speed and safety than ever before! Compact, modern design. Exclusive slanted gravity feed speeds shredding of paper in multiple thicknesses, tickets, cards, coupons and labels. Anyone can operate the Bantam 10. Safety throat assures protection. Priced well within the budget of all businesses, large or small.

Manufacturers' guarantee. Authorized dealers in most cities.

### FREE:

Illustrated descriptive folder includes 10 day free trial details. Write "BANTAM 10" on your letterhead or postcard, and mail today to:

**The SHREDMASTER Corp.**

Manufacturers Of The Most Complete Line Of Office And Industrial Shredding Machines!

A Division of Self Winding Clock Co., Inc.  
197 Willoughby Ave., Brooklyn 5, N.Y.

No. 25 in a series

**BATON**

**builds for  
Leeds & Northrup  
Company**

**Baton Construction Corp.  
PHILADELPHIA**

**Monroe FOLDING BANQUET TABLES**



Monroe Folding Banquet Tables are perfect for plant cafeterias as well as for churches, schools, lodges, etc. Rigid heavy-duty construction yet light enough to be easily portable. Write for Catalog and special discounts to institutions and organizations.

**MONROE CO. 40 CHURCH ST. COLFAX IOWA**



# Now Puerto Rico Offers 100% Tax Exemption to New Industry

by BEARDSLEY RUML

"We don't want runaway industries," says Governor Muñoz. "But we do seek new and expanding industries." Federal taxes do not apply in Puerto Rico, and the Commonwealth also offers full exemption from local taxes. That is why 325 new plants have been located in Puerto Rico, protected by all the guarantees of the U. S. Constitution.



BEARDSLEY RUML

**I**N a dramatic bid to raise the standard of living in Puerto Rico, the Commonwealth Government is now offering U.S. manufacturers such overwhelming incentives that more than three hundred new factories have already been established in this sunny island 961 miles off the Florida coast.

First and most compelling incentive is the 100% tax exemption for most manufacturers who set up new plants in Puerto Rico.

For example, if your company is now making a net profit after taxes of \$53,500, your net profit in Puerto Rico would be \$100,000—a gain of 87 per cent, simply because Federal corporate income taxes do not apply in Puerto Rico and all local taxes are waived as well.

Your dividends in Puerto Rico from a corporation there could be \$50,000 against \$25,000 net in the U. S.—because Federal personal income taxes do not apply either.

## What About Labor?

Puerto Rico's labor reservoir of 650,000 men and women has developed remarkable levels of productivity and efficiency—thanks, in part, to the Commonwealth's vocational training schools. These schools also offer special courses for managers and supervisors.

The progress made in technical skills may be gauged from the fact that there are now twenty-eight factories producing delicate electronic equipment.

Among the U. S. companies that have already set up manufacturing operations in Puerto Rico are Sylvania Electric, Carborundum Company, St. Regis Paper, Remington Rand,

## CORPORATE TAX EXEMPTION

If your net profit after U. S. Corporate Income Tax is:

\$ 17,500  
29,500  
53,500  
245,000  
485,500

Your net profit in Puerto Rico would be:

\$ 25,000  
50,000  
100,000  
500,000  
1,000,000

## DIVIDEND TAX EXEMPTION

If your income\* after U. S. Individual Income Tax is:

\$ 3,900  
7,360  
10,270  
14,850  
23,180  
32,680  
43,180  
70,180

Your net income in Puerto Rico would be:

\$ 5,000  
10,000  
15,000  
25,000  
50,000  
100,000  
200,000  
500,000

\*These examples are figured for dividends paid in Puerto Rico to a single resident. Based on Federal rates effective Jan. 1, 1954.

Univis Lens, Shoe Corporation of America, and Weston Electric.

## "Close to Paradise"

Listen to what L. H. Christensen, Vice President of St. Regis Paper, says:

*"This climate is probably as close to paradise as man will ever see. I find Puerto Ricans in general extremely friendly, courteous and co-operative."*

*"This plant in Puerto Rico is one of our most efficient operations, in both quality and output. Our labor has responded well to all situations."*

Mr. Christensen might have added that the temperature usually stays in the balmy 70's twelve months a year.

The swimming, sailing and fishing are out of this world. Domestic help is abundant.

The Commonwealth will leave no stone unturned to help you get started. It will build a factory for you. It will help you secure long-

term financing. It will even screen job applicants for you—and then train them to operate your machines.

## Transportation

Six steamship companies and four airlines operate regular services between Puerto Rico and the mainland. San Juan is just 5½ hours by air from New York.

Light-weight articles such as radar components come off the line in Puerto Rico one day and are delivered by air freight a day later in Los Angeles, Chicago and other mainland cities. And, of course, there is no duty of any kind on trade with the mainland.

## Are You Eligible?

Says Governor Muñoz: *Our drive is for new capital. Our slogan is not "more something old to Puerto Rico," but "start something new in Puerto Rico" or "expand in Puerto Rico."*

To get all the facts, and to find out whether you and your company would be eligible for complete tax exemption, telephone:

New York.....MU 8-2960.....579 5th Ave.  
Chicago.....AN 3-4887.....79 W. Monroe  
Los Angeles.....WE 1-1225.....5525 Wilshire

## OR MAIL THIS COUPON

Commonwealth of Puerto Rico  
Economic Development Administration  
579 Fifth Ave., New York 17, N. Y. Dept. DR2

Mail me "Facts for Businessmen." I am interested in the advantages of Puerto Rico for the industry I have checked.

☐ Electronics ☐ Apparel ☐ Jewelry  
☐ Pharmaceuticals ☐ Plastics ☐ Optical  
Other \_\_\_\_\_

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

*"We got  
the facts we needed  
from the Royal"*



American businessmen have found that the Royal Bank can help them with their Canadian affairs—can advise them on problems ranging from sales representation to choice of a factory site. For additional information, write to the Business Development Dept., at Head Office in Montreal.

Over 800 branches in Canada, the West Indies, Central and South America, New York, London and Paris.

## THE ROYAL BANK OF CANADA



HEAD OFFICE: MONTREAL  
New York Agency—  
68 William Street, New York 5, N.Y.  
**Canada's Largest Bank**

advertising manager for it describes in detail relations with advertising agencies, space salesmen, and other parts of the company. This volume will tell you in non-technical language how to set up an industrial advertising department, evaluate media, measure advertising results, and handle various other tools of the trade including publicity, direct mail, research, and trade shows.

### To Train Supervisors

MANAGEMENT TRAINING: CASES AND PRINCIPLES by William J. Mc Larney. Richard D. Irwin, Inc., 1818 Ridge Road, Homewood, Ill., 371 pages, \$5.50.

This is a newly revised edition of a basic work manual which is now being used in training supervisory personnel in industry, offices, banks, hospitals, and government. In the first edition which appeared in 1952, emphasis was on supervision of production workers. While most of the 264 cases in this volume still apply to industry, many others have been included to add to its usefulness in the other lines in which it is being used.

It contains case studies and discussions of principles, which can be used in a conference program for training first-line supervisors and middle management. By problem solving through group discussion, the performance of supervisors can be improved and others can be pre-

pared for promotion to supervisory jobs.

Among the many aspects of supervision which are included are problem-solving, responsibility, effective communication, evaluating employees, human relations, and work performance.

### On the Reich Path

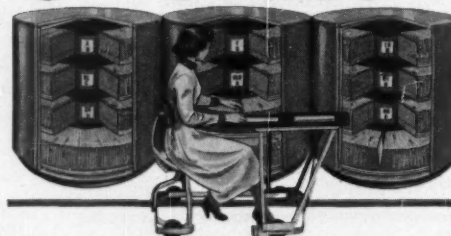
MAINSPRINGS OF THE GERMAN REVIVAL by Henry C. Wallich. Yale University Press, 143 Elm Street, New Haven 7, Conn., 401 pages, \$4.50.

What was the highly successful formula which raised the German economy from complete prostration to unprecedented prosperity within the last decade? Was it the transfusion of American aid, the German character, or the pro-business policies of the German government?

Professor Wallich of Yale, examines each of these factors and many others in a new volume which will be engrossing reading for executives concerned with economic policy and foreign developments. It provides a real understanding of the economic forces at work in Europe to-day as well as an opportunity to observe the workings of an economy in which money is tight, budgets are balanced, taxes are low, and the free market is given wide play.



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half the time—with  
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CORRES-FILE increases efficiency — saves time (50%) and money—improves employee morale, by taking the file clerk out of the laboring class!

**Saves TIME, LABOR and  
up to 40% in SPACE!**

Effective Tools for Effective Management  
**WASSELL ORGANIZATION, INC.** Westport, Conn.

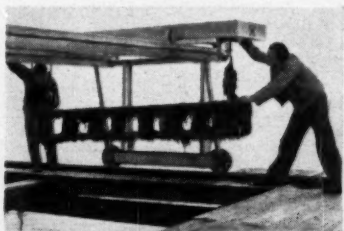




**Ocean Laboratory**—here at its big Kure Beach, N. C., Testing Station, Inco exposes thousands of metal specimens to the corrosive effects of salt spray, salt air, salt water.



**How hard** can the sea bite? This is no secret to Inco Corrosion Engineers. For over thirty years, they have been collecting data on the corrosive and erosive effects of sea water on many different kinds of metal.



**"Corrosion in Action"**—this is the name of an Inco-prepared film showing how corrosion acts and how it can be controlled. Prints loaned to engineer, student, corrosion specialist groups.

## How International Nickel finds out what the wild waves are saying

**The sea's a killer** of many metals.

Some it corrodes or rusts. Some it wears away. Some it destroys by eating up one of the alloying elements. Some it makes so "allergic" to connecting metals that corrosion is speeded up.

To hunt this killer down, International Nickel has made the ocean into a test tube. At Harbor Island and Kure Beach, North Carolina. Here, Inco Corrosion Engineers study the corrosive effects of salt water, salt spray, salt air, water velocity, marine growths, coupling methods.

Over more than thirty years, International Nickel Company has collected data from almost a quarter of a million individual tests on the behavior of metals and various other materials under all sorts of corrosive conditions.

To help you plan Inco Nickel into your future, International Nickel will be glad to help you apply this test data to any corrosion problem you may have. Or to arrange special tests for you. The International Nickel Company, Inc., Dept. 286d, New York 5, N. Y.

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Producer of Nickel, Inco Nickel Alloys, Copper, Cobalt, Tellurium, Selenium and Platinum, Palladium and Other Precious Metals

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**Ask your secretary...**

*To send for full-color "Sunshine Styling" brochure, filled with modern office layout ideas. Just write Department M.*

Building fine furniture for the office has been the honored task of Steelcase for 44 years. By featuring furniture which is a combination of functional design, space-saving engineering and outstanding beauty, Steelcase has compiled a Library of Famous Users which, as a cross-section of successful American business, is unsurpassed in the entire industry. As a matter of fact, whenever *more than price* is a factor . . . when quality, efficiency, convenience and styling are of major importance . . .

*Steelcase is consistently first choice.*

1955 Steelcase installations include major offices for  
Caterpillar Tractor Co. • Ford Motor Company • General Mills  
Jewel Tea Company • Lumbermens Mutual Casualty Company

## **STEELCASE INC**

GRAND RAPIDS, MICHIGAN

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Part of plant's manufacturing area shows boring mills, drill presses, other machines, and ample working space for free movement. Small canned motor-pump can be seen at lower right.

## PHOTO VISIT

# PLANT PRODUCES for ATOMIC POWER

*Bringing new opportunities, directions for private enterprise.*

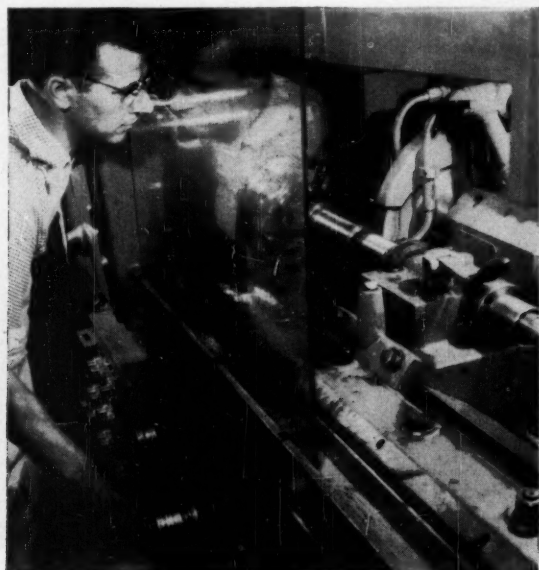
AS the country speeds deeper into the Atomic Age, private industry learns more about the rôle it will have to play. Already there is plenty of evidence pointing to the new products, designs, uses, and techniques that must be formulated and fabricated (see January 1955, page 36, and February 1955, page 39). Now Westinghouse Electric Corporation's new plant in Cheswick, Pa., signals the start of a new phase and gives a visual idea of what will be required by industry.

The first privately-financed plant built to turn out components for nuclear power systems, Cheswick is currently producing "canned" motor pumps, will soon be starting on other products for the same area. High

on the list of necessities are skilled and experienced manpower and the best in precision tools. There can be no margin for error when dealing with radioactivity.

On a line with production ability is quality control. From raw material to finished product checks, tests, and analyses are performed constantly. X-rays, ultrasonics, profilometers, dye penetrants are but a few of the many tools used. To complete this procedure, Westinghouse has installed what is believed to be the world's largest "test loop." Here the products are put through their paces under actual working conditions, with one exception—no radioactive materials are used. There's a big job ahead for industry.—JOHN DREXLER.

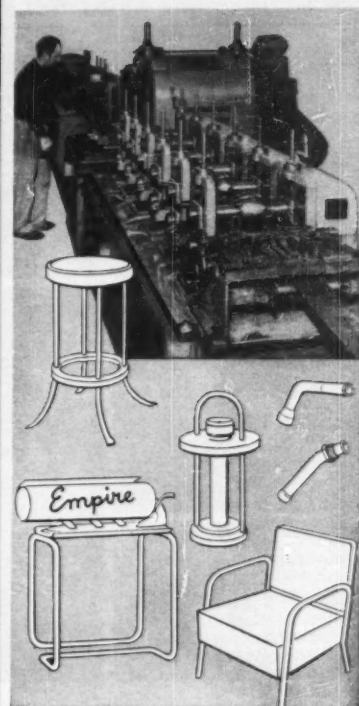
*More photographs on following pages*



Safety and precision go hand in hand at Cheswick. Here protected worker makes adjustment on thread-grinding machine.



Product must be protected as well as worker and gloves do double duty as rotor is lowered into a fifteen-foot deep furnace.



## plain facts about electric-weld TUBE MAKING

In Electric-Weld tube welding, everybody wants the highest speed, strong welds and dimensional accuracy. There are in addition at least three more essentials to profitable operation... viz.:

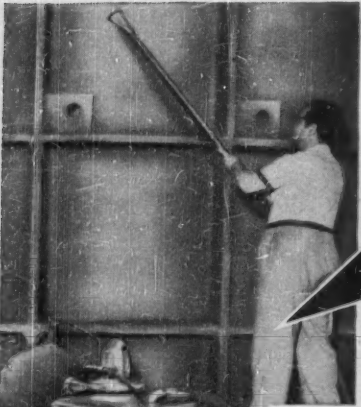
1. **Low Scrap Losses**—because the cost of the strip itself is many times greater than the conversion cost.
2. **Fine Exterior Finish**, free from scratches, scuff marks, and other defects which limit usefulness and lower salability.
3. **Quick and Easy Tooling**, to reduce time lost between production runs.

Yoder tube mills excel in all these respects and have other mechanical and electrical advantages to insure dependable, economical performance. Most tube makers seem to agree, because there are more Yoder mills sold and in operation than of all other electric-weld mills combined.


If you want the plain facts about things to look for in a tube mill, the Yoder TUBE MILL BOOK will give them to you, together with a wealth of other information about EW tube making. A copy is yours for the asking.

**THE YODER COMPANY**  
5531 Walworth Avenue • Cleveland 2, Ohio





# TORNADO JUMBO VACUUM CLEANER



Loosening and removing scale from a large weldment after heat treating.

Removing oil and chips from machined casting.

## cuts production cleaning time **IN HALF**

at **BALDWIN-LIMA-HAMILTON** corporation

At the Baldwin-Lima-Hamilton Corp. plant in Philadelphia, cleaning of chips, rust and oil is a big problem. The large castings and weldments they use in the manufacture of locomotives and diesel engines have to be carefully cleaned after machining to assure proper assembly and painting.

Previously they had used a wire brush and an air hose, but this caused cuttings and rust to fall on other finished work.

Then they installed "Tornado cleaning." With the powerful suction of their Tornado "Jumbo" (325 m.p.h. suction speeds) all oil, chips and rust are quickly picked up and deposited in a 55 gallon drum—cuts cleaning time in half.

The Tornado Jumbo conversion fits any standard 55 gallon drum and can be quickly moved from drum to drum as they are filled.

Tornado supplies a complete line of industrial cleaning equipment for every need. Write for an "in your plant" demonstration.

**WRITE FOR TORNADO JUMBO CONVERSION  
BULLETIN 694 TODAY**

# BREUER

**ELECTRIC MFG. CO.**

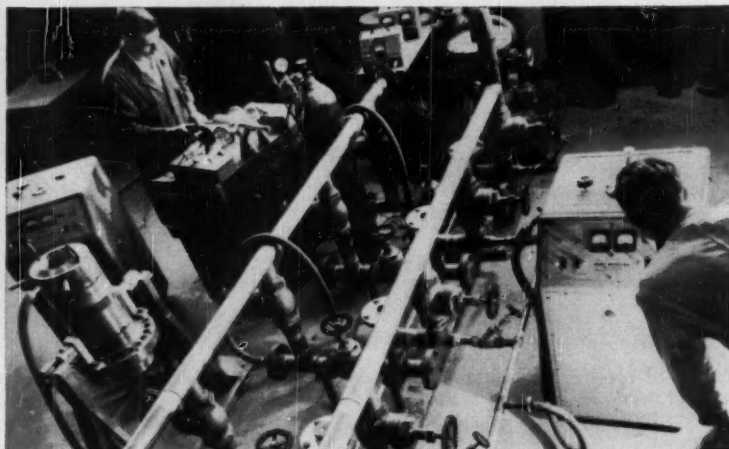
5106 NORTH RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS



TAKES THE **IN DUST** OUT OF INDUSTRY

PHOTO VISIT *continued*

TESTING IS A



Zero leakage is the aim and here a gas leak test is given to a pump stator with a mass spectrometer using Helium. Instrument is also used for hydrostatic tests.



Vibration-free operation is a must. Rotors are given static and dynamic balance tests. Precision to be held is a maximum amplitude of 50 millionths-of-an-inch.



Optical flat and monochromatic light source measure flatness of surface finishes. Surfaces are also inspected by dye penetrant and magnetic particle methods.

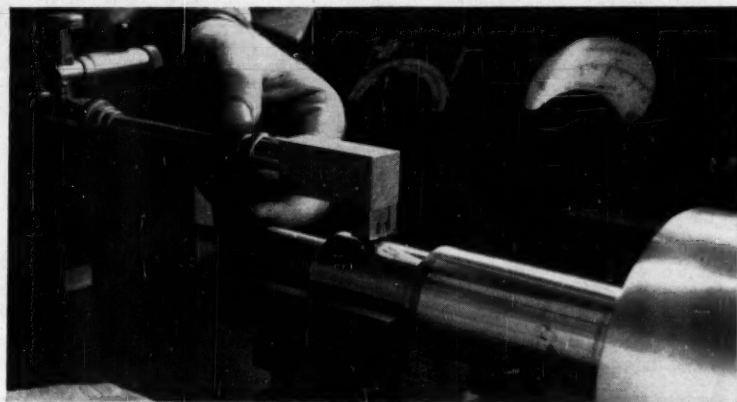
D U N ' S   R E V I E W   and



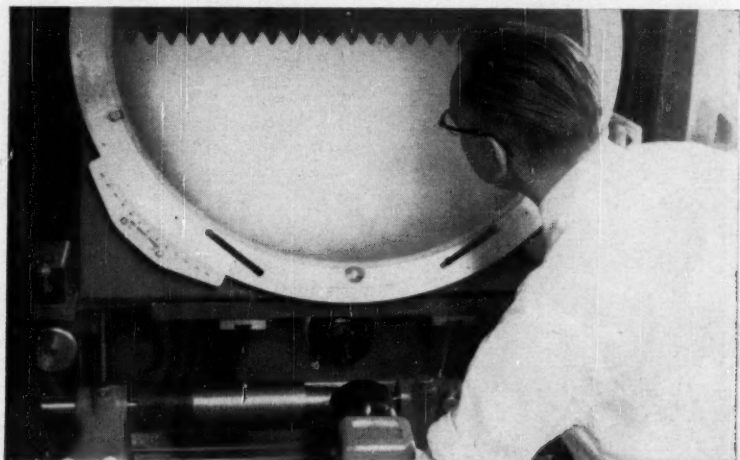
## CONTINUOUS PROCESS



X-rays and ultrasonics are used to turn up any internal flaws. In picture engineer checks negatives. Some of the raw material is also subject to these tests—nickel alloy shipments, for instance, must include chemical and physical analysis.



Special instruments, such as this profilometer, check the super fine finishes of curved surfaces. Finish of five microinches is required in some sections such as a portion of the rotor shaft. Inside diameters often require closer tolerances.



Optical comparator checks for correct pitch and contour of bolt threads before they go to assembly. Other checks here include Brinell and Rockwell hardness tests. *More photographs on page 88.*

## TWO WAYS TO GET FASTER FIGURES

These work-saving, time-saving office machines simplify work and speed results



### COMPTOGRAPH "202"

#### THE ALL-NEW, ALL-ELECTRIC CALCULATING-ADDING MACHINE

Figures faster than you think. Adds, subtracts, multiplies and even divides. Unusually quiet, super fast at 202 printings per minute. Visi-Balance Window automatically shows debit or credit balance. Compact keyboard, scientifically grouped, eliminates lost motion. Backspacer wipes out improperly indexed figures.

### COMPTOMETER

#### THE WORLD-FAMOUS ADDING-CALCULATING MACHINE

Floating touch for faster work. Direct-action for instant answers. Three-way control protects accuracy—signals the operator by sight, sound, touch. Electric and non-electric models. Get a demonstration on your work. Look up the Comptometer® representative in your Yellow Pages or mail the coupon.



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☐ Please arrange an office demonstration  
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**neenah says,**

it costs you over

**\$1,000**

to produce and mail  
1,000 individual business  
letters.

To protect that investment, give those letters the maximum chance of success by using a fine rag bond. The cost is small . . . only \$2.50 more for those 1,000 letters if you use a 50% rag bond instead of ordinary non-rag paper.

Whether you figure the cost of paper for one letter or 100,000 letters, you eventually reach this conclusion—

**fine rag paper is important . . .**

**its price is insignificant.**

Why not capitalize on the prestige of a fine rag bond by Neenah? It costs so little to protect your investment in business letters.

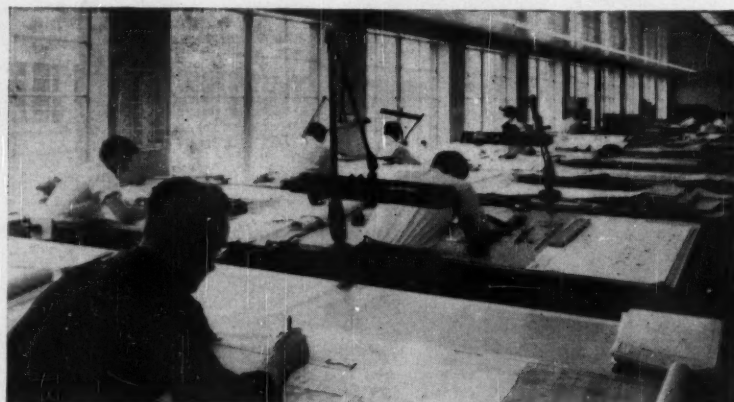
For a more effective letterhead, use one that is preferred by your customers. Ask your printer for a free copy of the "Neenah Guide to Preferred Letterheads" which is based on a four-year survey that determined what businessmen preferred in letterheads.



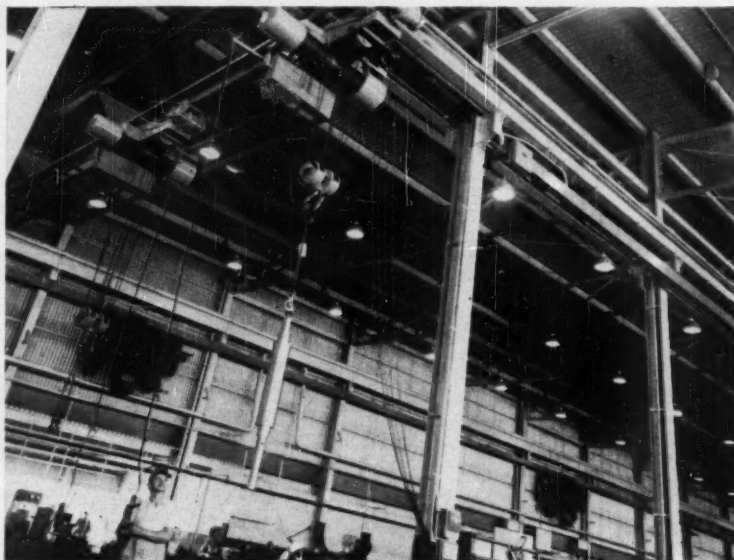
**NEENAH PAPER COMPANY • Neenah, Wisconsin**

## PHOTO VISIT

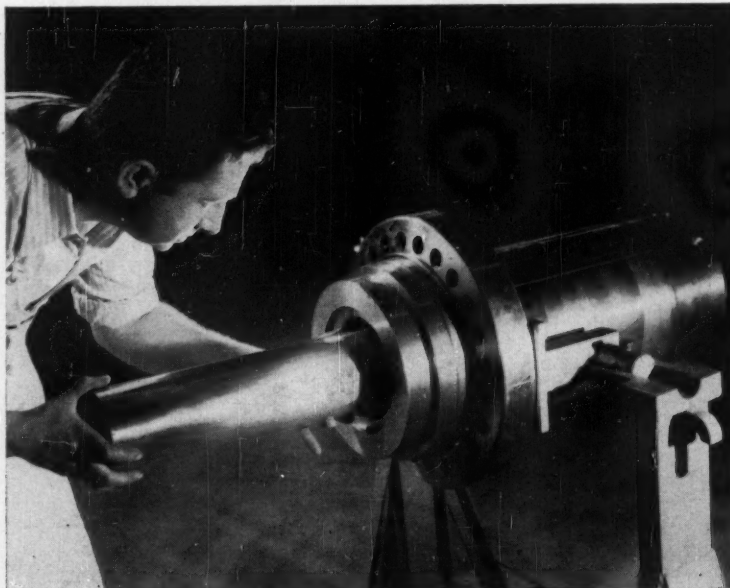
*continued*



Westinghouse provides several other facilities at Cheswick, such as an instrumentation laboratory and this well-lighted drafting room for design engineers.

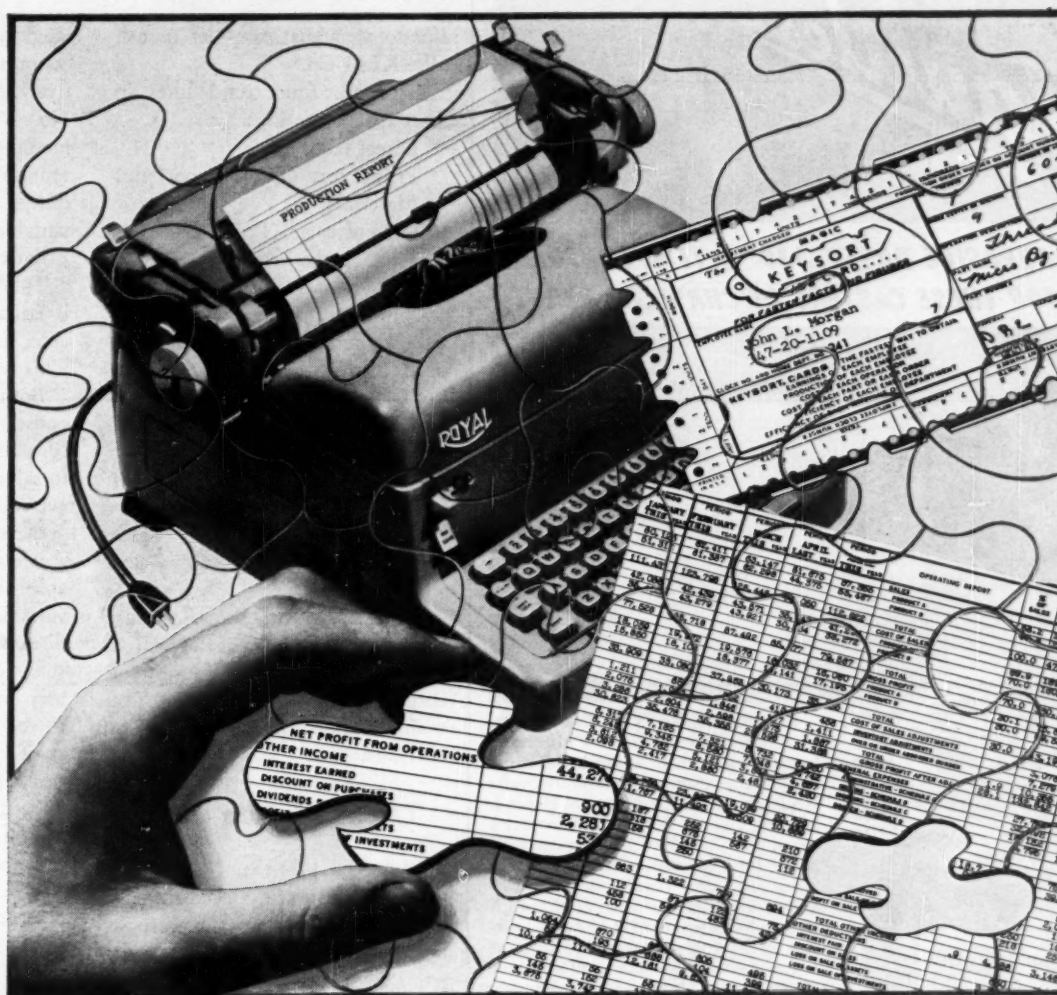


Moving heavy objects across the floor with a minimum of trouble and a maximum of care is simplified by a "crane cross-over," operated by worker from ground.



Pump gets "canned" name from the nickel alloy liner, shown being inserted into stator. Liner surrounds rotor core, lines stator, is welded leak tight at ends.





## there's no puzzle when MANAGEMENT can fit the pieces

Making the "pieces" of today's business fall together quickly, efficiently and economically is a job which calls for prompt operating information to management.

Royal McBee machines, business forms and procedures are engineered to meet the vital need for fast, accurate reports—placed on top management desks in time to capitalize on opportunity, or correct faults.

If you are interested in seeing the full report of Royal McBee for the fiscal year ended July 31, 1955, write Secretary, Royal McBee Corporation.



## ROYAL MCBEE CORPORATION

2 PARK AVENUE, NEW YORK 16, N. Y.

### SUMMARY OF RESULTS

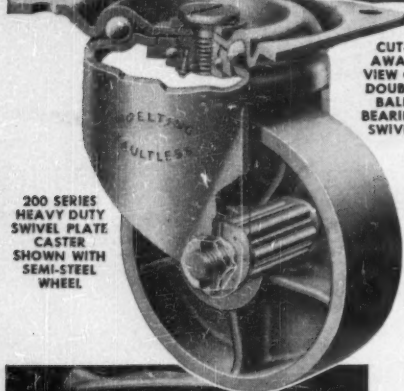
for year ended July 31, 1955, compared with previous year

	1955	1954
Income from Sales of Products, Services, etc. ....	\$84,694,569	\$84,398,114
Net Profit after Depreciation but before Federal Taxes on Income. \$	7,446,067	6,304,121
Provision for Federal Taxes on Income .....	3,813,000	3,513,000
Net Profit after Depreciation and Provision for Federal Taxes on Income .....	\$ 3,633,067	\$ 2,791,121
Earned per Share—Common Stock. \$	2.45	1.83

(After Year-End Audit)

# Faultless CASTER MATERIALS HANDLING FACTS

NEITHER DIRT, ABRASIVE DUSTS, 330°+ TEMPERATURES  
NOR WATER STOP THESE CASTERS AT CHRYSLER PLANT



Bodies are here being sprayed and will proceed to drying areas. No hindrance to these Faultless Casters is experienced even after going through 330°F. ovens hundreds of times.

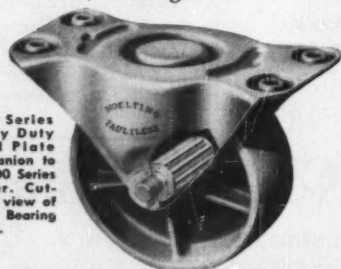


CUT-AWAY VIEW OF DOUBLE BALL BEARING SWIVEL

Faultless Casters at Evansville, Indiana, Chrysler Body Plant help keep Plymouth production at high rate. A constant procession of Faultless Castered dollies as shown above carry Plymouth bodies through more than 500 production steps. Rough formed bodies are secured to drag line operated conveyor dollies, for travel through production from first to last. During each production cycle Faultless Casters encounter sand and abrasive dusts, must roll through dirt-laden water and through drying ovens heated above 330°F. At no point can break-downs or delays be tolerated. That's why Faultless Series 200 Casters with double ball bearing swivel heads, and roller bearing semi-steel wheels were specified by Chrysler engineers.

We are proud of this Faultless performance for Chrysler and yet this is but one of the hundreds of tough jobs Faultless Casters have solved for men in industry. Do YOU have a materials-handling problem? Our experienced engineers will gladly provide you with helpful data, if you simply phone or write, no obligation.

2700 Series Heavy Duty Rigid Plate Companion to the 200 Series Caster. Cut-away view of Roller Bearing Wheel.



## GUIDES TO PROFIT CONTROL

Continued from page 54

refer to an actual case—let us call it the KLM Co.

There are four trend lines in Chart 2, representing:

- Direct labor
- Prime cost (Direct labor plus Material)
- Cost of sales (Prime cost plus Factory overhead)
- Total cost (Cost of sales plus selling administration)

This chart was originally prepared in the early part of 1951. Profit, that is the space between total cost point 1950 and sales line, was less than expected. The chart did indicate that all categories of cost were as expected with one exception, factory overhead, which was clearly divergent from the trend.

On the basis of these indications, a careful investigation of the factory was conducted and a program of reorganization decided upon. The results obtained are apparent from the chart.

### The Break-Even Chart

While the profit and loss chart reflects *how* profit varied over a period of years, it is the purpose of the break-even chart to investigate *why* it did.

The first step in constructing a break-even chart is to divide the total expense into three categories:

- *variable expenses*, which vary directly with sales (direct labor, direct materials, part of overhead)
- *fixed expenses* which are not related to sales (depreciation, taxes, insurance, interest)
- *regulated expenses*, which do not vary directly with sales volume but change from time to time (advertising, office).

An increasing number of companies which practise the break-even analysis have redesigned their chart of accounts to prepare for this classification. This of course makes it easy.<sup>2</sup> Otherwise use a worksheet like the one on page 58.

Have each of your expense accounts listed in columns one and two and their balance, as found in your trial balance, posted in column three. Analyse this balance into its variable, fixed and regu-

lated components, to be posted in columns four, five, and six, respectively. Suppose there is an account No. 678 "salesmen compensation" including all compensations and amounting to \$50,000. Break it down into \$18,000 (commissions, variable, column four) and \$32,000 (salaries, regulated, column six).

Total expense in the worksheet is equal to the sum total of: variable, fixed and regulated expenses. This provides a check.

Both fixed and regulated expenses, columns five and six, are constant at a given time in relation to sales; for purposes of the break-even chart, these are lumped together as the total constant expense.

An alternative method, less reliable but acceptable, is to evaluate variable expense as a combination of direct labor and materials, plus that share of selling expenses and factory overhead which are expected to vary directly with volume. Constant expense is then taken as the difference between total expense and variable expense.

You are ready to draw your break-even chart after breaking down your total cost into its variable and constant components.

Chart 3 is the break-even chart of the ABC Company (hypothetical case), whose profit and loss statement follows.

### PROFIT AND LOSS STATEMENT

YEAR ENDING DEC. 31, 1955—\$ MILLIONS

NET SALES		15.0
LABOR	5.0	
MATERIALS	3.0	
FACTORY OVERHEAD	1.4	
COST OF GOODS SOLD	9.4	
SELLING EXPENSE	2.2	
ADMINISTRATIVE EXPENSE	1.9	
TOTAL EXPENSE		13.5
NET OPERATING PROFIT		1.5

### BREAK-EVEN CHART BREAKDOWN

NET SALES	15.0
TOTAL VARIABLE	10.0
TOTAL CONSTANT	3.5
TOTAL EXPENSE	13.5
NET OPERATING PROFIT	1.5

Sales and total expenses are plotted, using a method similar to the one previously described for the profit and loss chart. Constant expenses are plotted on the vertical axis. The expense line is obtained by joining the constant expense

<sup>2</sup>See footnote 1, especially *Dynamics of Industrial Management*, p. 326 ff.





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The new Dri-Stat is the only photocopy

transfer system that you can use in bright office light. You can set it on any office desk without special shields or hoods.

Anyone becomes a Dri-Stat photocopy expert after brief instruction. Peerless "Bright-Light" Papers have such broad operating range, and the exclusive Dri-Stat rheostat control is so flexible that anyone can get a good copy every time. Paper waste is almost eliminated. Cost per photocopy is reduced.

The entire Dri-Stat system, both papers and machines, is made in America in a modern factory. All necessary supplies and service are available promptly when you need them.

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## Why, in one year, 73 companies paid 28% more for this Baker Gas Truck

The Baker Gas-O-Matic introduces a revolutionary new concept in automatic transmissions for gas-powered fork lift trucks. Instead of a torque converter, it employs a variable voltage generator—integral with the gasoline engine—and an electric motor.

The initial cost of this truck is about 28% higher than conventional clutch-type gas fork trucks. But . . . operating and maintenance costs are extremely low—in line with the higher priced battery-powered electrics. Moreover, frame, uprights, steering assembly, drive axle, etc.—in fact 90% of Gas-O-Matic's components—are standard Baker electric truck parts which always last 10 years or more.

### Gas-O-Matic users have proven that

1. Fuel savings, originally estimated by our engineers as 40%, are actually in excess of 50% over ordinary gas trucks.
2. Depreciation costs are less because truck can be amortized over 9 years instead of 5.
3. Maintenance costs are less—no clutch or transmission to wear out and replace—30% fewer moving parts—no complicated electrical system—engine operates at controlled optimum RPM.

These Gas-O-Matic customers recognize the "lower-first-cost" fallacy—many of them have re-ordered for the second and third time—based on their experience with these trucks.

**Write for**  
complete information about this unusual fork lift truck.

**THE BAKER-  
RAULANG CO.**  
1205 WEST 80TH STREET  
CLEVELAND 2, OHIO

A SUBSIDIARY OF OTIS ELEVATOR COMPANY

**Baker**

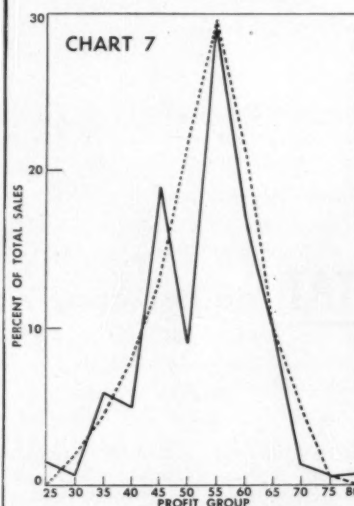
handling equipment

point to the total expense point.

You can, with such a chart at an executives' meeting, answer intricate questions in a few minutes instead of starting lengthy computations which would force an adjournment of the meeting. Such questions may be:

1. *Where is our break-even point?* Where the total expense line cuts the sales line, \$10,500,000.

2. *We can increase our sales by increasing our quality. This, however, means increasing our labor and materials cost by about 10 per cent. Where will our new break-even point be?* You draw a new expense line which goes through the same constant expense point as the old one, but goes through a new total cost point which reflects this increase of 10 per cent in labor and materials, equivalent to \$800,000. Chart 4 reflects the new trend. The new break-even point is at \$12,500,000, an increase of \$2,000,000.



3. *If this improvement enables us to increase our sales to \$17,000,000 are we going to make more profit?* No. The new trend shows a new profit of \$1,200,000 at \$17,000,000 of sales instead of \$1,500,000 with the present type of production and \$15,000,000 of sales.

4. *How much should we sell of the improved product to make more profit than with our present product?* To make \$1,500,000 of profit with the new trend, we should sell about \$18,000,000. Unless we can reach or even substantially exceed this level, we should stay as is.

These are the answers which the break-even chart can give within a few minutes. The most complex problems related to the cost to sales relationship can be clarified by sim-

ply drawing a line. This can be done while the discussion proceeds.

Another application of the break-even chart is to analyse the problem of automation. By evaluating the increase automation means in terms of constant cost (depreciation, maintenance, insurance), and the decrease in terms of variable cost (labor, waste of material) it is possible to determine a new expense line, to compare the new pattern to the old one, and to make a decision based upon accurate analysis, as in Chart 5, on page 58.

The impact of a change in selling price can also be analysed by considering an increase in selling price as the equivalent of a decrease in variable cost; as in Chart 6, on page 54.

### The Sales Mixture Chart

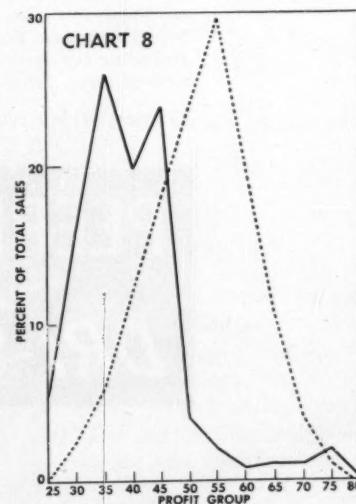
Many businesses produce and sell hundreds or even thousands of items. Because pricing policies are guided by competition as well as costs, some items are bound to be less profitable than others. Ultimately, profit depends upon the sales mixture as much as upon the total volume of sales.

While the break-even chart analyses the cost to sales relationship in terms of *sales volume*, it is the purpose of the sales mixture chart to analyse it in terms of *items sold*.

To set up a sales mixture chart, you first classify all items into profit groups, according to their profit margin per dollar of sales.

If you sell through different distribution channels and have several selling prices for each item, take their average.

Turning to cost, distinguish be-





tween *direct costs*, which can be assigned directly to an item, and would not be incurred if the item were discontinued (labor, materials, eventually some overhead costs), and the *indirect costs* which have to be allocated (rent, taxes, salaries, and so forth).

For the purpose of sales mixture control it is recommended to consider only the direct costs. This avoids the vicious circle of recomputing the overhead burden for each item every time your sales mixture changes.<sup>3</sup>

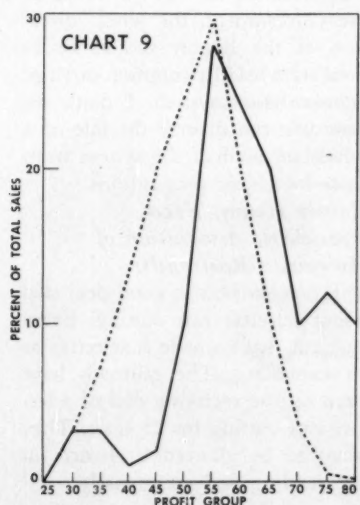
After you have subtracted the direct cost from the average selling price and divided the result by this average selling price, you get for each item the direct profit expressed in cents per dollar of sales. This is the basis of the classification into profit groups.

In an actual case, the XYZ Company classifies all items into twelve groups, as in the table below.

THE XYZ CO.—SALES MIXTURE			
GROUP No.	DIRECT PROFIT (PER CENT OF SALES DOLLAR)		PERCENTAGE OF TOTAL SALES
	FROM	TO	
25	22.5	27.5	1.35
30	27.5	32.5	.10
35	32.5	37.5	5.95
40	37.5	42.5	4.60
45	42.5	47.5	19.10
50	47.5	52.5	8.62
55	52.5	57.5	29.71
60	57.5	62.5	17.61
65	62.5	67.5	10.52
70	67.5	72.5	1.39
75	72.5	77.5	.72
80	77.5	82.5	.33
TOTAL			100.00

Actually, you will determine the

<sup>3</sup>The direct costing method is increasingly recognized. See among others, David S. Fields, "Sales Mixture Control" in *The Controller*, May 1955.



limits of each group in accordance with the conditions under which you operate.

Chart 7, on page 92, is the sales mixture chart. To prepare it, you plot the percentage of your total dollar sales which each profit group produces. You can use the chart these ways:

- *For sales control*, by comparing actual sales mixture to the expected one. Chart 8 reflects a bad month. Sales included too many low profit items. By considering only the sales volume figure, we would not know that. Chart 9 reflects the reverse situation. It was a good month from the mixture point of view.

A sales mixture chart for each sales district will help you check whether the salesmen, while trying to reach their quotas, are also pushing the profitable items. Plotting one group of customers against another group may uncover interesting differences, too.

- *For pricing policies*. The sales mixture chart tells where adjustments are seriously needed.

- *For break-even analysis*. By preparing sales mixture charts at regular intervals it is possible to detect a change that would affect substantially the cost to sales relationship. When such a change occurs, adjust the break-even chart accordingly.

### The Three Charts Together

By merely looking at three simple charts, instead of searching through pages and pages of accounting data, you get, at a glance:

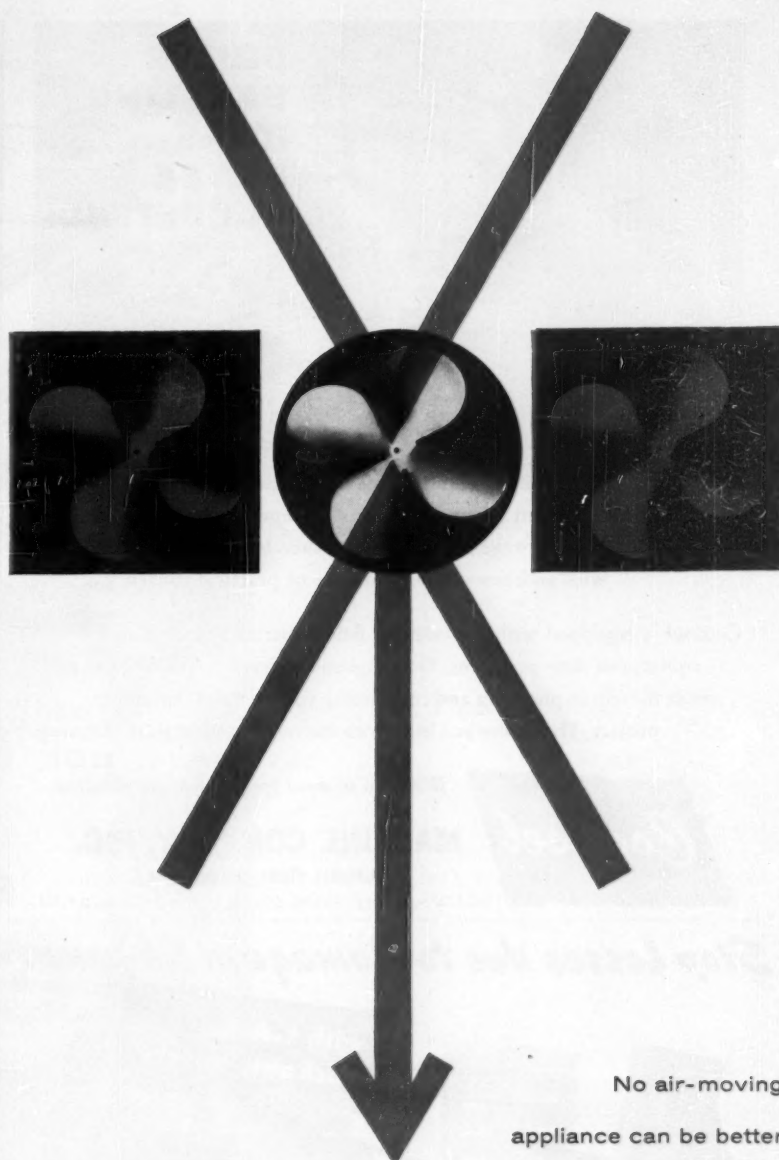
- a comprehensive picture of your cost structure over a period of years (*profit and loss chart*)
- an analysis, in terms of fixed, regulated and variable costs (*break-even chart*)
- a break-down by items sold, in terms of profit groups (*sales mixture chart*)

You can use these three charts:

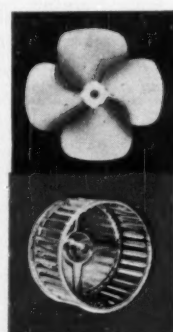
- as a yardstick of measurement of actual performance
- as a forecasting tool
- as the basis from which to start increasing profit.

### The AUTHOR

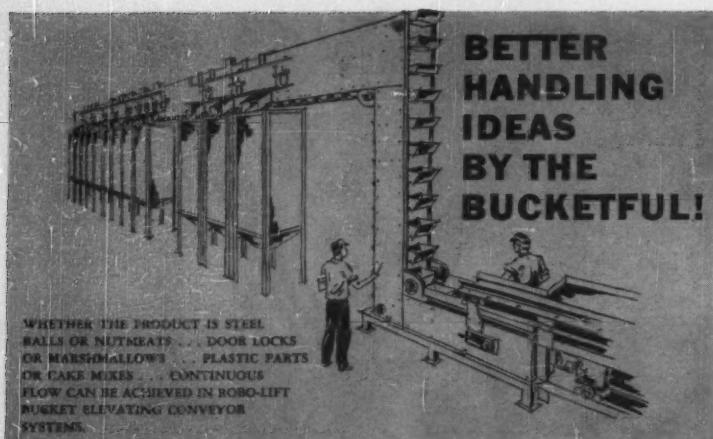
Mr. Villers is a Consultant in Industrial Management with Rautenstrauch and Villers, New York City, and Associate Professor of Industrial Engineering, Stevens Institute of Technology.



No air-moving appliance can be better than its most vital component: the air-impeller. And no one has had more experience in the design and manufacture of air impellers than Torrington.



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**TORRINGTON**  
MANUFACTURING COMPANY  
TORRINGTON, CONNECTICUT  
VAN NUYS, CALIFORNIA • OAKVILLE, ONTARIO



Material handling in the manufacture of door locks calls for complete flexibility and advanced control systems. Distribution of parts to as many as 38 storage bins is accomplished by one ROBO-LIFT with an unusually high degree of practical efficiency.

Counsel is equipped with a wealth of field experience analyzing continuous flow problems. Our engineering staff is available at all times to help in planning and completing your material handling project. They serve you best from the very outset of your planning.

**Counsel** MACHINE COMPANY, INC.  
8 HATHAWAY STREET, WALLINGTON, N.J.  
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## Stop Losses due to Damage in Shipment



Users of L.A.B. Package Testers are cutting shipping losses to the very minimum. In addition, this equipment permits them to develop the most economical shipping container that will do the required job—another important saving. Often, unsuspected weaknesses of the product itself, as well as the package, are revealed by L.A.B. Package Testers. Pre-shipment package testing in your plant will pay for itself many times over.

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We were the original developers of this type of package testing equipment and our machines were used in evolving the test procedures recommended by the National Safe Transit Committee and the American Society for Testing Materials. Only genuine L.A.B. testers are backed by 15 years experience in the plants of America's leading manufacturers.

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L.A.B. Corp., Skaneateles 2, N. Y.  
Please send your package testing equipment catalog to:

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Company \_\_\_\_\_

Address \_\_\_\_\_

**L.A.B. Corporation**  
Skaneateles 2, N. Y.

## TRANSPORTATION POLICY—continued

**Belson, Trucking:** You want a healthy system but the proposals are railroad slanted; the fate of the trucking segment is ignored.



**Pinkney, ATA:**

The law on that goes about like this: if a shipper leases a truck and then puts his own driver on it and operates it, then he has a private carrier. But if the truck leasing company supplies the driver, then you have for-hire carriage. But there are many devices that have crept into this and as a result it is a fuzzy area, despite some arbitrary rules laid down by the Commission. The recommendation of the Report to redefine this would not, I believe, clarify that issue.

**E. F. Hanlon, General Traffic Manager, Celanese Corporation of America:**

I have the impression that the trucking industry is opposed to the repeal of the 4th section. Am I correct in that? [Ed. note: This prohibits carriers, without prior I.C.C. approval, from charging less for longer than for shorter distances over the same route in the same direction, the shorter being included within the longer.]

**Pinkney:**

Yes, sir. We feel in connection with the 4th Section that discrimination can be brought about through automatic approval of all 4th Section applications. We believe it is in the public interest for that control to remain in the I.C.C. rather than with the individual railroads. Without that curb, many more times the current volume of long haul or volume rates will go into effect and opportunities for discrimination will be multiplied.

**Louis S. Rothschild, Under Secretary for Transportation, Department of Commerce:**

You don't by any chance read into anything you have seen an automatic operation such as you are contemplating, do you?

**Pinkney:**

Yes, I do. The proposals make that possible.

**Rothschild:**

Right, providing still that they are not discriminatory and that the rates are not non-compensatory plus all of the other safeguards which are inherent in the law today and in the proposals. But surely if these rates did result in area discrimination or shipper discrimination, there would be the immediate point of their being unlawful. No part of that provision in the Act today is removed or lessened in any respect by the proposals.

The Government's interest almost exclusively rests on two factors. One is the importance of a sound transportation system in emergencies and the other is that the Government is the only means with objective interest in seeing that the public gets the benefit of transportation at the lowest possible price.

**Walter W. Belson, Assistant to the President, American Trucking Associations:**

If those are the twin interests of the Government, the whole direction of the Report should be to preserve a healthy common carriage transportation system. I don't see how you can divorce the fate of a whole segment of the system from these two basic propositions.

**Robert Henry, Vice-President, Association of American Railroads:**

There has been a good deal said about selective rate cutting. Every rate cut that is made is selective as to something. The railroads have been on the receiving end of selective rate cutting for 25 years. They want to be allowed a chance on the sending end occasionally.



IT'S HERE!

*Capehart*  
**COLOR**  
TELEVISION



The CAPEHART "Apollo"  
Color Television Set.

*To bring you the colorful world you live in*

This color television receiver is the brilliant achievement of an outstanding group of scientists and technicians working in the laboratories of the International Telephone and Telegraph Corporation and its Capehart division. For out of this cooperative effort in electronic research came the perfected "Apollo"—designed, engineered and manufactured by Capehart. The Capehart "Apollo" is a proven receiver, incorporating all the newest developments in color reception, with matchless performance and dependability. It's a major example of the imaginative thinking, technical proficiency and production skills that have made IT&T a world leader in electronics.

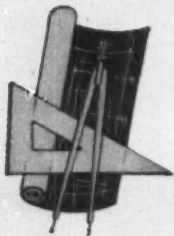
For full information on Capehart products,  
write Capehart-Farnsworth Company, Fort Wayne 1, Indiana.



INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION  
67 Broad Street, New York 4, N. Y.

# Craftsmen of the 20<sup>th</sup> Century

No. 9 of a series to introduce you to some of industry's outstanding plastics craftsmen



The artisan has always derived his inspiration from the materials around him. In the past he has labored with gold and silver, steel and stone, to create articles of beauty and worth. Today, the craftsman's spirit and skills are challenged by new materials. He is working with plastics—the wonder material of our 20th Century. Pictured here are two of the specialists who are molding plastics into products that are becoming all but indispensable to every industry, every home. Monsanto, a major producer of high-quality plastic materials, salutes these modern craftsmen who are helping to mold America's tomorrow.

When your plans call for plastic parts or products, consult an expert custom molder



**Daniel D. Whyte, Whyte Manufacturing Co., New York City.** As president of his company, Mr. Whyte supervises all production, design and engineering projects. He is a high-polymer chemist by profession and a pioneer in the science of plastics technology. Specializing in difficult molding jobs involving complex design and engineering, his company has produced over 3,000 different molded products for every type of major industry. Most of them were precision items never before molded of plastics. Recent example: an all-plastic household mixer.



**Charles J. Karels, Service Plastics, Inc., Chicago.** After 15 years' experience in solving the multiple problems encountered in the custom molding of plastics, Mr. Karels is convinced that every job must be engineered individually. Among the components that he has helped his company deliver on schedule are grid-form fluorescent light louvers with 1,008 interstices, large high fidelity TV speaker grills with both thick and thin sections, and eight-sided prisms that are optically perfect. (Cost of each plastic prism was 30¢ compared with \$5 for glass.)

MONSANTO CHEMICAL COMPANY,  
PLASTICS DIVISION, SPRINGFIELD 2, MASS.





# HIGHLIGHTS & sidelights

comment by

*Hoesta R. Gardner*

## Ready for that extra?

Formula 366, Scott-Atwater Manufacturing Company calls its sales plan for 1956; not because "six" is the number of the year, but because it's a leap year. S-A is determined to make that 366th day pay off in extra sales, not just extra time on the calendar. How about you?

## News in hues

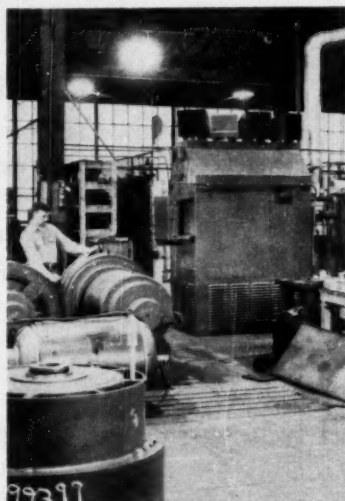
Color is invading the office, the kitchen, and practically every other area. It's a sign of the times.

Office typewriters are now obtainable in half a dozen shades. A new line of office cabinets has sliding panels in a selection of hues (see August, page 85). This year, almost every manufacturer of home appliances offered kitchen ranges in pastel finishes. Where over-all col-

ors are not widely used—as on dish washers—trim is being converted from chrome to colorful plastics, with a choice of shades to meet the buyer's fancy.

Joseph C. Thompson, general paint manager of Pittsburgh Plate Glass says building exteriors are getting brighter, too. That goes for commercial and industrial buildings as well as homes. (To meet this demand, PPG is introducing a new ceramic-surfaced glass which, it says, can be produced in "an unlimited selection" of colors and several surface textures.)

In choosing colors for your own product, though, don't forget that color preferences change—often rapidly. (Some auto makers, for instance, are anticipating a swing back to darker shades in 1956 and 1957.) Too, a "good" choice for one item may be a mill-weight for an-



## Which adds least to plant costs?

That old pot-bellied coal stove was amortized years ago; the unit heater is brand new. Yet Ideal Electric and Manufacturing Company of Mansfield, Ohio, finds it's saving money by spending money to replace 32 of the old stoves with eleven new gas-fired, forced-air space heaters. According to Dravo Corporation, which makes the new heaters, Ideal reports a net saving of

nearly \$3,000 in a single winter, figuring the amortization charges for the new heaters and stand-by equipment on a ten-year basis, and expects to save over \$6,000 a year when cost is paid off. Other savings: 3,400 feet of plant space (for stoves and coal bins); much better heat distribution. Sure you don't have old horses like these that eat as much as, or more than, they produce?

ARE YOU INTERESTED IN A  
**WESTERN  
INDUSTRIAL SITE?**

*Call your nearest  
U. P. Man*

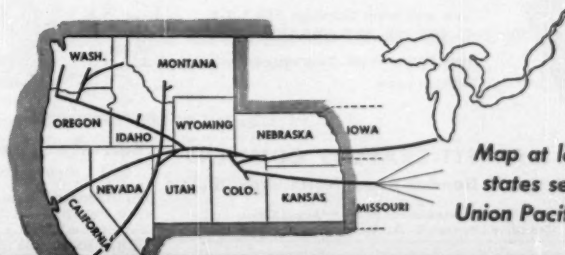


The Union Pacific serves a number of western states as pictured on the map. This vast territory contains an abundance of natural resources in addition to being a healthful, progressive region in which to work and live. As you know, it offers boundless opportunities for outdoor recreation.

If you're thinking about an assembly plant, warehouse, distribution center, or whatever it might be, in a western locality—then we offer this suggestion—

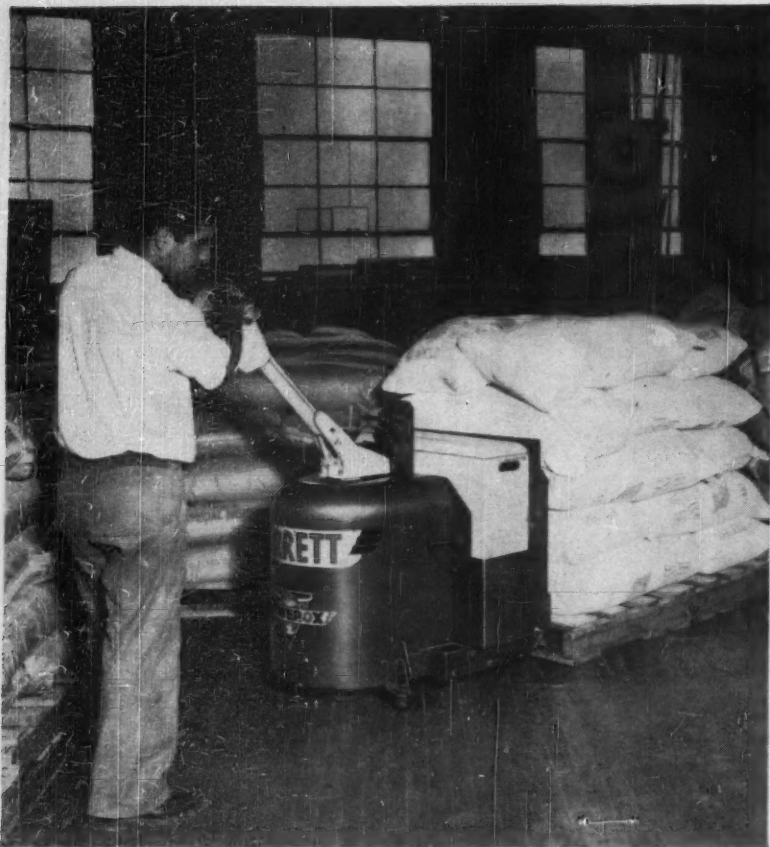
Contact your nearest U. P. representative. Tell him what you have in mind regarding an industrial site to meet your specific requirements. Then he can get in immediate touch with U. P. headquarters in Omaha . . . obtain for you the information you want about available sites.

Or—if more convenient—write, phone or wire the Industrial Properties Department, Room 357, Union Pacific Railroad, Omaha 2, Nebraska.



Map at left shows  
states served by  
Union Pacific Railroad

**UNION PACIFIC RAILROAD**



Barrett PalletOx Model PX 4" lift cap. 4000 up to 6000 lb.

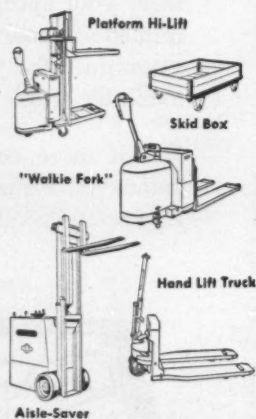
## BARRETT PALLETOX

**the low-cost "walk away"  
for loads up to 6,000 lbs.**

Barrett PalletOx walking type power lift truck is a money-saver on short hauls... load spotting... general pallet handling. Often eliminates expense of rider type power truck operation. PalletOx is made for fast operation—gets into tight corners—short turning radius—no lost-time gaps to slow down handling. 4" lift prevents floor snagging. Write for complete descriptive literature.



You will want Catalogs 551-1-2-3 on the complete Barrett "Walkie" type Power Truck. Your request will bring a copy.



**BARRETT-CRAVENS COMPANY**  
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**BARRETT**  
ONE MAN DOES MORE THAN 3 OR 4...WITH A BARRETT

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High labor costs demand specialized equipment. There is a Barrett-built unit specially designed to handle any moving job at low cost...even when operated by less experienced help. Your Barrett representative will gladly assist in selecting the type and model of material handling equipment best suited to your needs.

other. As Thompson himself points out, while houses get brighter, clothes are going to charcoal gray and brown.

### *They make things clump*

Know what a *flocculating agent* is? If your process involves filtration, flotation, clarification, or sedimentation, you probably do. But have you heard about the synthetic flocculants that are being made by several of the major chemical companies? These new materials are designed to make small particles clump together and settle out faster, and more completely.

That means more efficient recovery of useful materials from waste liquids and less danger of water pollution.

Paper makers, for instance, save more of the cellulose fibers and pigments in "white water." Sugar producers say impurities are removed from syrups more easily. Textile, chemical, cement and mining companies are benefiting, too.

While the producers aren't saying much about the composition of these new materials, some, at least, are closely related, chemically to the

soil conditioners that made their debut a few years ago. As a matter of fact, it's the clumping or flocculating effect of these conditioners on clay soils that is one of their most valuable features. It prevents packing down of the soil, allowing plant roots to breathe, and also slows washing away.

### *Profitable freeze*

It may be a cold, cruel world, but industry is finding plenty of ways to put coldness to work.

The latest edition of the ASRE Air Conditioning and Refrigeration Data Book notes, for instance, that mechanical refrigeration equipment is used in drying air for blast furnaces, preserving electrical conductors, manufacturing drugs and photographic products, and processing textiles. It's an important adjunct to precision manufacture of watches, gages, and implements, and helps assemble close-fitting machine parts. All of these are, of course, in addition to regular comfort and humidity-control air conditioning installation.

If the only icebox in your plant is in the cafeteria, maybe you're ov-

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INCORPORATED

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Tulsa New Orleans Phoenix Milwaukee Cleveland Havana London



erlooking a good chance to simplify production and safeguard product quality.

### Finger in the wind

Looking toward your markets of tomorrow? Be sure to look down the line as well as up.

For instance, Arthur C. Fatt, executive vice-president of Grey Advertising, advised members of the Toilet Goods Association:

Keep an eye on the research being done in the industries from

which you obtain your raw materials. (The sooner you know about their new developments, and take advantage of them, the better.)

Watch other industries—even those which may seem unrelated to your business. (Who, a few years ago, would have expected to find glass and aluminum "yarn" in tires; or colloidal silica helping housewives keep rugs clean?)

And, of course, watch your customers. If you know which way they're going, you can be prepared to meet their changing needs.

## DIG HOLES



**SITTING DOWN**

**IF**

you wear clothes



you need

**K-VENIENCES**

### High marks in postmarks

For the price of a tiny printing plate, you can add a bright fillip to your letters and extra punch to your sales message. Yet, as Pitney-Bowes, Inc., points out, only about a third of the country's postage meters are taking advantage of this fact. To encourage more companies to do so, P-B asked a panel of experts to pick the ten best postmark ads of the past three years and help prepare a booklet on how to use postmark advertising.

Single copies of the booklet are free, from the Pitney-Bowes Public Relations Department, Stamford, Conn. Among its suggestions: keep illustrations sharp, clean, and simple; make sure they stay within size limitations for your machine; don't deal with controversial issues or use a design that might be confused with regular postal markings. Two of the contest winners are pictured above.

## Cut 1/3 in truck miles



### MEANDERING DELIVERIES

Route your trucks the **SHORTEST WAY** every trip. The time and gas used by your drivers looking for unknown streets will buy a hundred maps like Hearne's Street Map of your city and county area.

Printed in six colors; street names are in big, black type, and instantly spotted with Hearne's patented, automatic Street Finder. (See border)

Over 100,000 truck owners use Hearne maps every day to give customers better service and cut truck mileage. Many users claim they save the cost of the map in a single day's use.

### HEARNE BROTHERS

America's Largest Manufacturers of Commercial and School Maps

25th Floor National Bank Bldg., Detroit 26, Mich.

44" by 65" wall maps of any American city, \$42.50 each F.O.B. your office.

44" by 65" wall maps of any American county, \$42.50 each F.O.B. your office.

44" by 65" wall maps of any state in the Union, \$42.50 each F.O.B. your office.

Send for **FREE ILLUSTRATED CATALOG**, containing seven large scale maps showing in color the area covered by our 400 large scale street maps. Absolutely no obligation, no salesman will call.

If in your operation you use salesmen, our city-county street maps might save your men considerable time. Test after test conclusively proves that this type personnel will make more calls more often if you make it convenient. Our city-county street maps locate instantly and mechanically for your salesmen, any street address in any American city. We will promptly mail one of your secretaries a brochure.

## HOW A NOTED TRAILER COMPANY CUT INVENTORY REPORT PREPARATION TIME 50%



The problem of Fruehauf Trailer Company branches was to determine quickly, by model, the location of used trailers in each of 71 branches so that requests for models unavailable in one branch could be filled from another.

To solve the problem, inventory information is typed by each branch on forms pre-printed on Colitho Offset Duplicating Paper Plates and sent to the home office, where all plates are duplicated. The 71 parts are collated and bound into books—one for each branch.

Not only are long hours of copying and proof-reading of in-

dividual reports saved, but also all chances of transcription errors are eliminated. Uniform, original-looking copies—in perfect registration and in any amount desired—are obtained at a saving in production time of 50%.

This case history demonstrates the economy and efficiency that countless businesses now enjoy through the use of Colitho Plates. We have a collection of these factual stories which you will find packed with valuable ideas. Just use the coupon and you'll receive your copy of the Colitho Idea File promptly.



THE "ONE-WRITE" WAY TO RUN A BUSINESS

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COLUMBIA RIBBON AND CARBON MFG. CO., Inc.  
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Okay, rush the Colitho Idea File.

Name \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

*Each week another group arrives  
at the Nation's Capital*

## 40 Executives on a grave mission



They come, at the Government's request, not to discuss contracts and production schedules, but to plan something even more important in the national interest—the survival of their companies should disaster strike in any form... and a prompt recovery from the blow.

*Upon this, it is pointed out, the survival of our nation may well rest.*

During their stay in the Capital, Department of Commerce officials stress the importance of protecting employees and facilities; of establishing a continuity of management and technical know-how; of protecting vital corporate records.

The advantages of microfilming these records are reviewed... also the extra protection which results when the films are stored in such impenetrable fortresses as Iron Mountain Atomic Storage Vaults, Inc., N.Y.; Western States Atomic Vaults, Inc., Calif.; National Storage Company, Pa.

### Vital-Record Security Service

In support of this program, Recordak Corporation (Subsidiary of Eastman Kodak Company) announces a new service designed to enable companies to resume normal operations faster if original records are lost or destroyed.

Beginning November 1, 1955, Recordak will maintain at each of the three above-mentioned locations, equipment specially designed for the high-speed production of paper enlargements

from microfilm negatives. Equipment—and stand-by operating staff—can be augmented as required to meet increasing demands. Also, the same service may be provided in additional security areas.

Company executives who are concerned with the protection of their corporate documents will welcome this new *Vital-Record Security Service*.

For it means that they can reserve equipment and man power on an hourly or full-time basis specifically for the reproduction of their vital records *should originals be lost through any means*.

Contracts can be for as little as 2 hours of machine and staff time per day or as much as 24 hours per day on a 7-day week basis. Work will continue at this rate until the number of linear feet of vital records contracted for have been produced.

### High-speed print production

Reproduction equipment used by Recordak in these security vaults will produce 1,000 linear feet of paper prints per hour from microfilm records of blueprints, production and research data, stockholder and financial records, contracts, and other vital items.

### Non-strategic materials used

A new and most important feature is that none of the materials used in this high-speed process is considered critical or strategic by the U. S. Government. A sufficient quantity of all supplies adequate to operate each machine continuously until your contract has been fulfilled will be maintained as a minimum reserve. Stand-by equipment will be tested and serviced periodically.



### Other Recordak Services

**Microfilming.** Recordak offers a complete line of microfilmers for all requirements on a purchase or rental basis. It also maintains a Customer Service Department which will microfilm your records at its nearest laboratory or on your premises.

**Film Processing.** All Recordak Microfilms—whether photographed by you or our Customer Service Dept.—are processed by Recordak in high-speed professional equipment to U. S. Bureau of Standards specifications for archival films. Following this, your films are inspected for photographic quality.

**For complete information** on Recordak's new Vital-Record Security Service and other services, write Recordak Corporation (Subsidiary of Eastman Kodak Company), 444 Madison Avenue, N. Y. 22, N. Y. *No obligation whatsoever.*

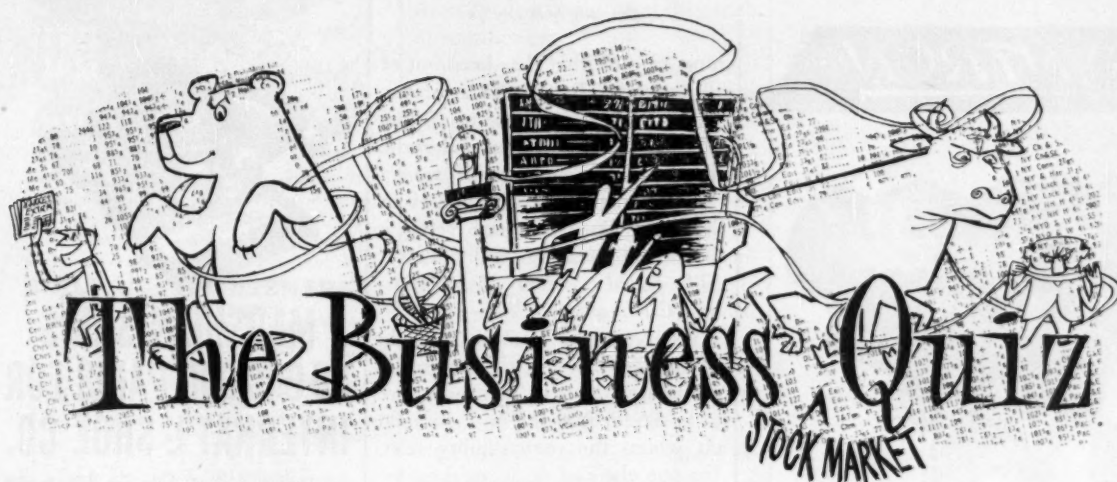
*"Recordak" is a trade-mark*

# RECORDAK

(Subsidiary of Eastman Kodak Company)

**originator of modern microfilming—  
and its application to business routines**





You don't have to be a Serge Rubinstein, a Hetty Green, or even a garden variety coupon clipper to tackle these questions. But we think your knowledge is pretty thorough if you answer all correctly. Ten is very good, eight is just plain good. Less than six? Then study those answers on page 106.

1. How many stock exchanges are there in the United States?

- ☐ 2 ☐ 19  
☐ 9 ☐ 29



2. While there are 700,000 companies in the United States with one or more issues of stock outstanding, the number of issues actively traded is closest to this number:

- ☐ 1,000 ☐ 25,000  
☐ 5,000 ☐ 50,000

3. In the Securities and Exchange Act of 1934, Congress gave the authority to regulate credit in the stock market to this body:

- ☐ SEC ☐ Federal Reserve Board

4. Roughly this proportion of all American families own corporate stocks:

- ☐ 3 per cent ☐ 29 per cent  
☐ 11 per cent ☐ 59 per cent

5. About three-quarters of all shares traded cost less than \$20.

- ☐ True ☐ False



6. One of these divisions of industry accounted for about 85 per cent of the total tax liability under the now-expired excess profits tax law. Which?

- ☐ manufacturing  
☐ trade  
☐ finance  
☐ construction

7. Of the \$17.8 billion in corporate profits after taxes in 1954, the proportion paid out in dividends was closest to this figure:

- ☐ 20 per cent ☐ 60 per cent  
☐ 40 per cent ☐ 80 per cent

8. Stock ownership is concentrated in the hands of which of these types of investors?

- ☐ individuals ☐ institutions



9. More shares of stock are bought on margin than for cash.

- ☐ True ☐ False

10. Geographically, individuals residing in New York State account for the largest number of shares traded by residents in a single state; which has the second largest:

- ☐ Connecticut  
☐ Texas  
☐ California  
☐ Illinois

11. Women's holdings of stock are traded on the organized exchanges more actively than men's.

- ☐ True ☐ False

12. Individuals in which of these age groups are the most active buyers and sellers of stocks?

- ☐ under 40 ☐ 40 to 59  
☐ 60 and over

## Do you have a PROFIT-PARING Plan?



You may not realize how much time, effort and money are being wasted in your business because of dangerous and inefficient methods of handling payroll and disbursement checks.

It will pay you to investigate the Todd Disburser. It's three machines in one. It dates automatically. It shreds amount lines into check fibres with indelible ink. It controls and counts every signature.

Employees like the Todd Disburser because it's fast, simple, easy to operate. Executives like it because it saves employee time, cuts overhead and completely protects company funds.

Get all the facts about the time-saving, money-saving Todd Disburser by mailing the coupon. Take this first step toward a better balance sheet in 1955.

**Todd**  
COMPANY, INC.

ROCHESTER SALES OFFICES IN NEW YORK PRINCIPAL CITIES

DISTRIBUTORS THROUGHOUT THE WORLD

THE TODD COMPANY, Inc.,  
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Please send full details on the Todd Pro-tectograph Disburser.

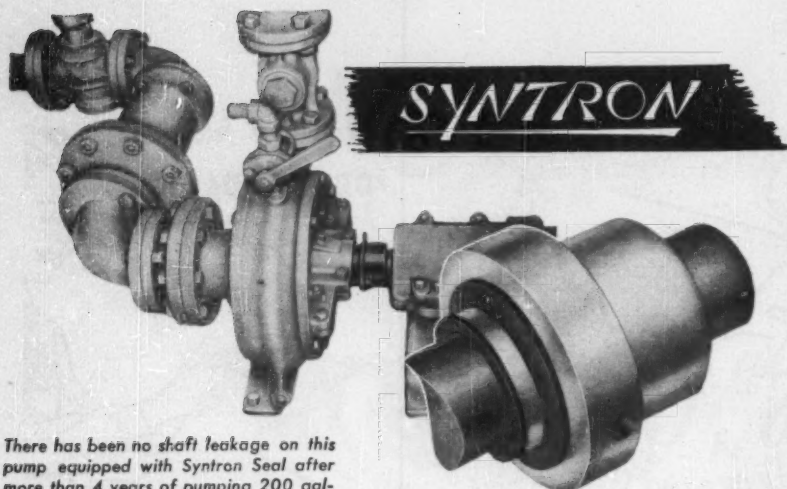
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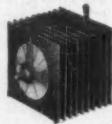
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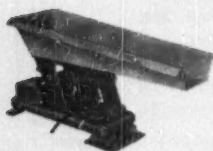
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## PURPOSE

Continued from page 52

must see to it that they keep out of all varieties." It was this tendency which the late Professor Elton Mayo had in mind when he wrote that "modern industrial society moves always in the direction of an ineffective State authority facing 'a disordered dust of individuals.'" (*The Social Problems of an Industrial Civilization*)

What can the business men do about it? Because if the free societies and, with them, democracy are to be saved, it is the business men on whom the responsibility rests. No one else can do it, neither, for the reasons just given, the community as a whole who are represented by the politicians, nor labor leaders who are, by the nature of the constituencies which elect them, compelled to overemphasize men's interests as producers and thus to develop an unbalanced economy. Only the business men, the managers, are in a position to develop a form of management which is acceptable to free men.

Hitherto they have played directly into the hands of their critics. Preoccupied with their own function as trustees of the consumer they have concentrated on one, or at the most two, of the levels at which the business enterprise operates. They have regarded it either as "an organization of economic values for economic purposes" or, additionally, "as an organized aggregate of physical things." They have seldom seen it clearly at the third level as "a community of human beings joined together for common as well as for individual purposes," in the words of Peter F. Drucker in the January 1955 *Management Science*.

Obsessed with the incomplete explanation of human behavior furnished by the "economic man" of the classical economists, they have concentrated their appeal to others to co-operate with them entirely on individual economic purposes. They have taken the common purpose for granted.

As long as this remains so, the words and phrases quoted at the beginning of this article will be meaningless. Of course leadership is essential in all forms of organized human effort: but a leader implies a goal—a common goal. Of



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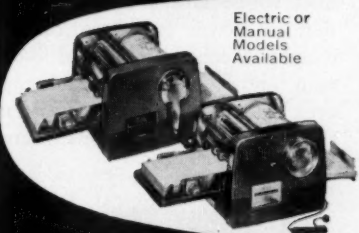
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course communication is essential: but, before it is attempted men must be clear about *what* they wish to communicate.

Morale has been defined as "moral condition, especially as regards discipline and confidence." But discipline is "organized self-control"; and before men will appreciate the necessity for it they must know *why* they should be organized, and to what larger end they should control their individual impulses. If they are to have confidence, it must be confidence in achieving some aim they share in common.

### Two Questions

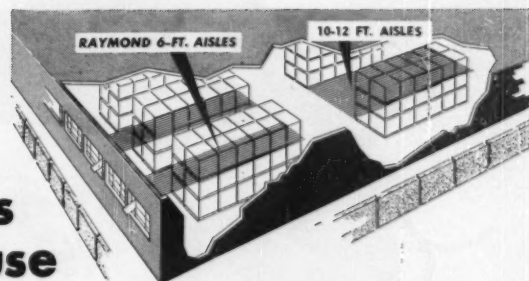
Of course management should be by persuasion, not by command. To give of their best in any common enterprise men need a sense of participation and, without explanations of "the law of the situation," authority becomes merely individual whimsy trying to sustain itself on a vacuum. But if men are to be persuaded it is essential as a first step that those who are to do the persuading should be clear on two points: (1) *What* they are asking other men to believe in and (2) That this *what* is something in which other men can reasonably be expected to believe, not only with acquiescence but with dedication.

What is needed is a complete restatement of the purpose of business and that means, in practise, of the purpose of each individual enterprise. Because it is not economic theories which determine how people behave and what they believe, but experience. And their experience is the climate of opinion, the social feeling, within the little unit in society with which each isolated soul lives and works and has its being.

Such a restatement must be in



"I had a job once . . . didn't like it."



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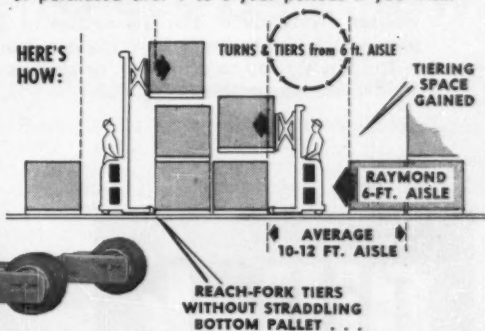


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terms of *common* aims and *common* benefits, not in terms of individual self-seeking. An economics which is based deliberately on the exploitation of selfishness is bound to end in confusion, a welter of warring vested interests. A mechanized economy imperatively demands the closest co-operation based on the most intricate social discipline from all those engaged in each business enterprise. These communal virtues cannot be developed on a basis of individual forestalling and competitiveness. They demand, above all, integrity and the confidence in the intent of fellow-workers which integrity alone can give.

### It Can Be Done

When the British socialist, Professor Tawney, wrote of "the sickness of an acquisitive society" he was voicing a valid criticism of classical economics. Exactly the same criticism was expressed recently by Peter F. Drucker in his book "*The Practice of Management*"—"Capitalism is being attacked not because it is inefficient or misgoverned but because it is cynical." But to recognize the force of this criticism is not to accept the socialist alternative. It is perfectly possible within the framework of a free society based squarely on competition between enterprises and accepting profit as the social test of the utility of the enterprise, so to state the purpose of each enterprise as to provide those working in it with an aim to which they can dedicate themselves with real enthusiasm.

It cannot, however, be done by begging the question. Some American corporations, aware of the difficulties outlined in this article, have

tried to restate their aims in terms which would be acceptable to *all* the interests involved. For instance, it has been said that the purpose of the XYZ corporation is to make this or that in such fashion as to safeguard the interests of customers, stockholders, employees, and so on.

### Unity Needed

The weakness of all such statements is that they imply a possible conflict of aim between these different groups. They are a compromise, not an integration. Consequently they provide no point of reference, no single criterion against which the validity of any policy or the quality of leadership can be measured objectively. They state no *common* purpose to which all concerned can be expected to devote their efforts with equal enthusiasm. It is beating the wind to expect a group of employed persons to be enthusiastic about larger profits for an anonymous group of stockholders. But they can be expected to understand that on the safeguarding of and a reasonable return to the capital invested depends the development of the enterprise as an institution and hence the security of their employment.

Singleness of purpose is as important to the integrity of an institution as of an individual. It is the touchstone of conscience without which all action becomes, sooner or later, unconscionable. It is easy to be worldly wise, to argue that "every man has his price." But the man whose loyalty to the institution in which he serves can be bought is contemptible and every man knows it. "There is honor, even among thieves." A man is entitled to sell his services elsewhere;





that right is one of the corner-stones of a free society. But while he serves and as long as he serves, the purpose of the institution in which he is serving has the first call on all his qualities.

### Higher Aims

To try to express that purpose in terms of profit is to demean human nature. This generation has seen two world wars and the first full-scale war on behalf of the United Nations. Millions of men and women have endured untold hardships, have sacrificed life itself for causes in which they believed. If the tasks of peace are to mobilize a like devotion—and nothing less will serve—they must be stated in nobler terms. It is difficult to feel dedicated to a statement of account. All through man's history creative people have "set the game above the prize." A democracy which aims at a reasonably creative life for every man can do no less for the vast majority of its people who are in business employments.

It is such considerations which render so important a recent statement by Peter F. Drucker in *DUN'S REVIEW AND MODERN INDUSTRY* (March 1954, page 43): "Purpose must lie outside of the business itself. In fact, it must lie in society, since a business enterprise is an organ of society. There is only one definition of business purpose: to create a customer."

Every business starts like that—not with capital, not with machines and equipment, but with an idea, a dream in some man's mind of some new good or service which he can create for society or of some new method which will enable him to supply an existing good or serv-

ice at lower cost, and thus to create customers. That he wants to make money may be a driving force which sets his wits to work. But without the idea, the seminal concept of a needed service, no amount of sheer trading ability will get him very far. To have such ideas is the heart of the matter, the basis of entrepreneurial skill, the secret of the true "business man."

### A Simple Truth

In the complexities and specialization of a mechanized economy men have lost touch with this simple truth. Consequently the "business man" is frowned upon and his function as the trustee of men's interests as consumers held in less account. If the free societies are to be preserved that position must be amended. But it cannot be altered by argument or by opposing the natural social tendency of men who are associated in work day by day to organize, to protect, and to emphasize their interests as producers.

It can be changed by restating the basic purpose of each business enterprise as to emphasize this fundamental principle of social service and by those in authority, both in word and deed, living up to that statement of purpose. Leadership is example. And it is only by clarifying their own purpose to themselves and pursuing it unswervingly day by day and year by year, that business leaders will have anything to communicate to others or can hope to create a higher morale in the business enterprise. Rattling the skeleton of "economic man" is a passport to confusion and disaster. Joe Doakes knows out of his own experience that he is "the seat of a process of living."



COLONEL LYNDALL F. URWICK, O.B.E., M.C., M.A., is Chairman of Urwick, Orr and Partners, Ltd., a London, England, firm of management consultants. He is a graduate of New College, Oxford, and served with the British military forces during World War I.

His success in the field of scientific management and his knowledge of business organization are internationally known. Among his many accomplishments are included Director of International Management Institute, Geneva, 1928-1933; General Secretary of International Committee of Scientific Management, 1932-1935; Chairman of the Committee on

Education for Management, 1946; Chairman Anglo-American Productivity Team on Education for Management in U. S. A., 1951; and Director American Management Association Study of Management Education, 1952-1953.

Colonel Urwick is also a noted author having written many articles dealing with management, organization, and administration. His books include *Management of To-Morrow*; *Development of Scientific Management in Great Britain*; *Dynamic Administration*; and *Elements of Administration*. His latest honor was receipt of the Wallace Clark Award Medal for 1955.

### The AUTHOR



## WHY I LIKE TO COACH IN IOWA

*Forest Evashevski*

Forest Evashevski, Head Football Coach, State University of Iowa

"A stadium full of cheering fans means a lot to a football team and their coach. Iowa fans come from all corners of the state to back our ball club. Their spirit and loyalty make my job a pleasure. Even when we had a poor season, the Iowa stadium was nearly sold out for every game.

"You see that spirit in other places, too. I've coached in a number of states, and I feel that Iowa leads them all in pulling together for community progress.

"Iowa is a wonderful place to raise a family. Our neighbors are friend-

ly, genuine people who made us feel at home the day we moved in. With four boys and a girl at home, that counts as another big reason why I like to coach in Iowa."

The spirit and loyalty Coach Evashevski mentions is an important consideration for business management. Iowans carry these qualities into their jobs. Their will to work and pride in accomplishment make for good employee-management relations. If you're thinking of a move, write to the Iowa Development Commission for information on the characteristics of Iowa's labor force.



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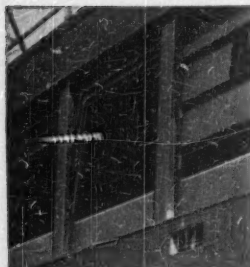
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International engineers pooled their broad experience with the engineers of the Dept. of Marine and Aviation and Madigan & Hyland to give New York's newest Pier No. 57 these new-design doors. They'll welcome the chance to help you plan applications for your special needs — or to work with you on any door project. Mail coupon for comprehensive data on International's unique door service.

## QUIZ ANSWERS

Quiz starts on page 101

1. 19. The New York Stock Exchange transacts the lion's share (71 per cent) of the trading, the American Stock Exchange comes next with 17 per cent.

2. 5,000. Between 2,500 and 3,000 unlisted stocks have what might be called an active market; at the end of 1954, there were 2,656 stocks listed and registered on the national securities exchanges.

3. *Federal Reserve Board.*

4. 11 per cent, according to a recent study by the Survey Research Center, University of Michigan.

5. *False.* The proportion is closer to 40 per cent.

6. *Manufacturing.* Trade companies were next with 8 per cent.

7. 60 per cent.

8. *Individuals.* In market value, individuals owned 74 per cent of the stocks at the end of 1954, institutions 26 per cent. But the proportion owned by institutions was slightly larger than in previous years. About 65 per cent of all privately owned marketable stock is owned by spending units with incomes of more than \$15,000. In trading volume, individuals with incomes of less than \$5,000 account for 7 per cent of the shares bought and sold, those in the \$5,000-\$10,000 income bracket for 26 per cent,

those with \$10,000-\$25,000 for 34 per cent, and over \$25,000 buy or sell 33 per cent of all the shares traded on the organized exchanges. Individuals account for the bulk of the trading volume, too, initiating roughly 60 per cent of the transactions.

9. *False.* In June, 1955, when the New York Stock Exchange conducted its latest survey, margin buying by individual investors constituted about 42 per cent of all individual transactions; less than 24 per cent of total transactions (which include buying by institutions and members of the Exchange, as well as individuals). It is anomalous that there are no margin requirements for unlisted stocks.

10. *California* is second, with 9.5, roughly 10 per cent of all individual share holdings. There are five States where individual holdings amount to less than one-half of 1 per cent (Kansas, North Dakota, Idaho, Nevada, and Wyoming), no State with no individual share holders.

11. *False.* Men account for about 78 per cent of the shares bought and sold on the organized exchanges.

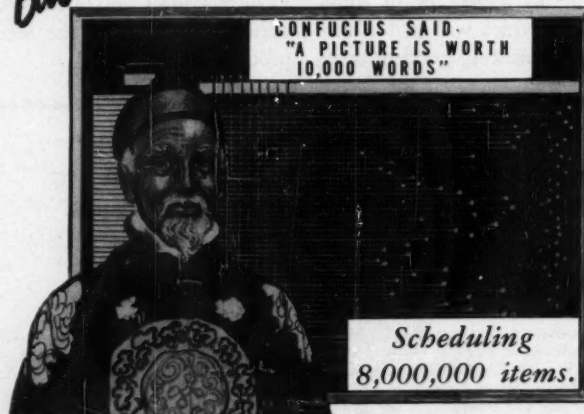
12. 40 to 59 age group owns 64 per cent of the stocks traded; 60 and over, 23 per cent; the under 40 age group owns 12 per cent.

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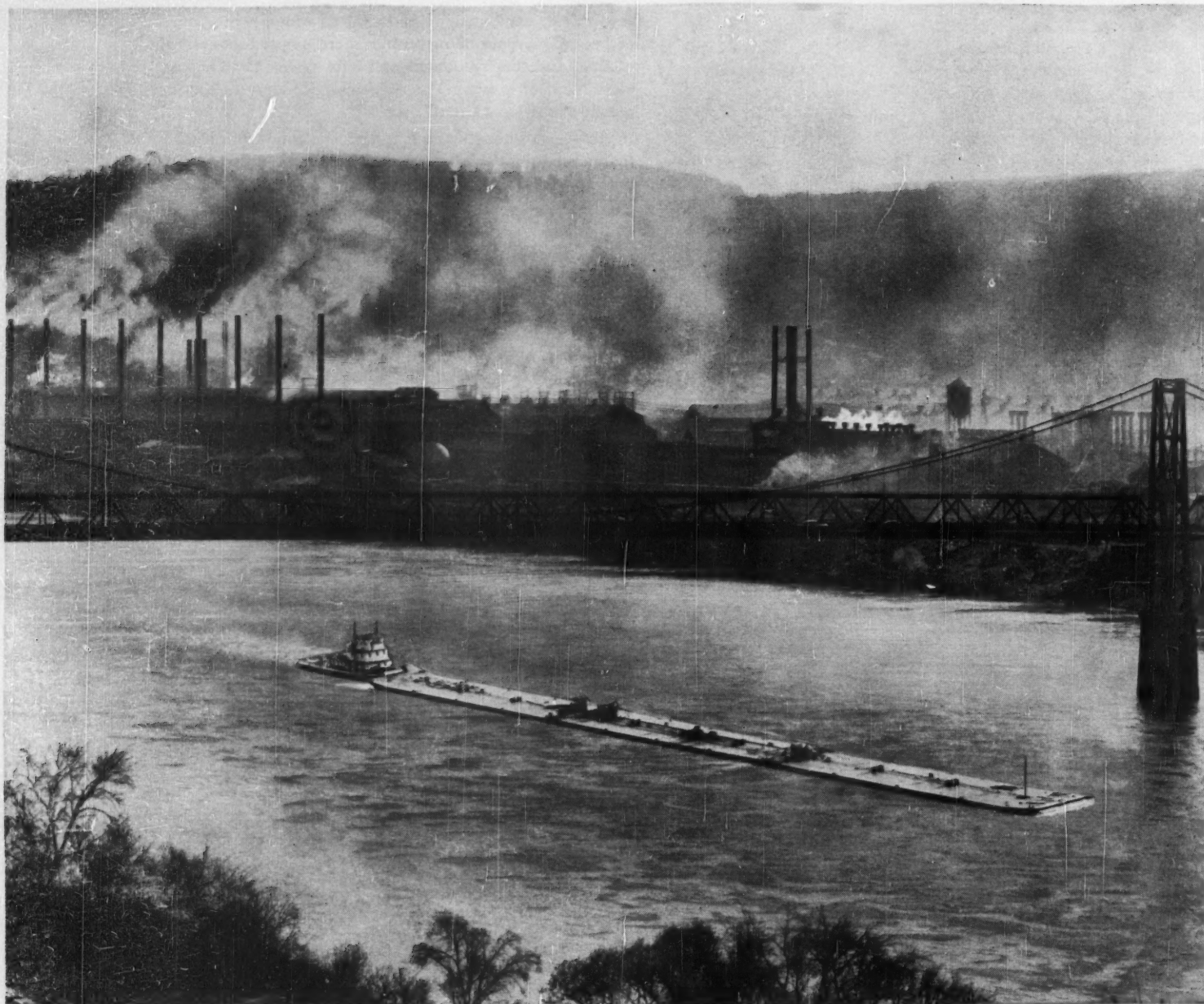


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Number 14 of a series



## EMPLOYER RELATIONS

... ALFRED G. LARKE

# Using Showmanship to Sell Safety

*Safety engineers don't have to be pitchmen, barkers, circus performers, or drama promoters—but it helps.*

IT WAS 5:00 P.M., and the employees of Alaska Pine Company, in a Canadian mill town, were leaving the plant for home. Some were heading for their cars, parked on the plant grounds, and others were hustling to a nearby bus stop.

Suddenly a shrieking siren brought everyone to a standstill. An ambulance drove into the plant grounds and came to a dead stop. Two attendants jumped out and hurriedly pulled open the ambulance's back doors. But, as everyone looked on, instead of taking out a stretcher as the witnesses expected, the white-coated internes pulled out a huge poster with this message: "Don't let me take YOU home. Work and drive safely!"

This is the dramatic safety stunt *par excellence*, with which safety directors and their committees are always dressing up a message that, although ever important, may be ignored because its content is ever the same.

The ambulance stunt is cited by

F. W. Braun, vice-president in charge of accident prevention for Employers Mutual of Wausau, Wisc., as an example of how creative imagination can still find new ways of telling an old story.

"Industry is always looking for unusual ways to dramatize safety because stunts and gimmicks seem to help maintain worker-interest in safety," says the insurance executive. "It would be a serious mistake to substitute clever promotion for the basic principles of accident prevention. But, like the ribbon on the package or the sizzle of the steak, stunts do help management sell this important subject to its workers."

Many companies originate "characters" to handle some of the safety training, Braun points out in listing some of the more popular forms of dramatization. Companies find that employees become attached to these make-believe personalities and even look forward to their messages, wondering what they will say next.

One company has a scarecrow, named "Scarecrow," as its safety

spokesman. A gaunt metal figure with long legs and arms and a whimsical smile, it stands at the time clock and talks through a hidden announcer using a concealed microphone. As an employee comes up, "Scarecrow" may greet him by name: "Hello, Joe. Hope you have a nice evening. And, by the way, don't forget to use the guard on your machine to-morrow." Or he may say, "You sure did a good job on that piece of work to-day, Bill. Followed safety rules to a T. Keep up the good work."

In another plant in Braun's book, each employee watches his co-workers because he knows one of them is a Mystery Man who will purposely violate a safety rule. Each month, the company selects a different employee to be the Mystery Man. His identity is known only to the safety man. At an appointed time, he commits an unsafe act in view of all other employees. The employee who first spots the violation and tells the Mystery Man the rule he is breaking wins a prize cer-

## Best foot forward for new employees

A far cry from the shabby employment office once common in American plants, the new employee service building at Inland Steel Company's Indiana Harbor Works is an air-conditioned, three-story structure that would outclass many an executive office. Activities for 18,000 employees are centered here. At right: Job applicants come into one side of this room for examination by the medical staff; employees seeking treatment in plant hospital use other side. The Austin Company built the facility for the steel concern.



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Dept. 411  
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Please send me a copy of "Quantity with Quality through Auto-typist Personalized Letters."  
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Company & Title.....  
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Bradford, Pa.

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that sell  
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Road, Department 40, Detroit 19, Michigan.

**HYDROSCALE**

**LIFTS AND WEIGHS IN ONE OPERATION**

**Attractive Territories Available. Write for Details.**



tificate, and duplicates are awarded in case of ties. As might be expected, a number of other unsafe actions, besides the "official" one, are uncovered in the course of a month, and the subject is thereby kept constantly in everyone's mind.

In a sort of reverse switch on that plan, the Unit Drop Forge Company, Milwaukee, Wisc., observes one employee all week long to determine how safely he operates. The identity of the man to be watched is known only to the safety director until it is announced at the end of the week. Since no worker knows whether he is the one under observation, until the week's end, all are likely to be especially careful. If the man chosen has violated no safety rules, he wins \$5.00. If he has not worked safely, the \$5.00 is added to the next week's prize money.

Fairly widespread are such devices to get the man's family interested in safety as a children's essay contest on "Why I Want My Daddy to Work Safely," or a telephone quiz for wives, with prizes for those who know the answer to the week's safety question. Hope of winning the phone quiz makes wives question their husbands on safety, of course, and makes the matter of safety a family rather than just a job subject.

One safety director who thought the wives were beginning to lose interest went even further, Braun says. He had a woman employee write safety messages to employees and mail them in tinted and perfumed envelopes, addressed in a feminine hand. They were mailed to homes singly. To get himself off the spot when he got home, an employee naturally showed his wife the contents and the safety message got across in an atmosphere of intense (if sometimes warm) interest. "How did your wife take it?" became the dominant question in the plant as more and more letters were delivered.

To keep men's attention on the subject of safety during plant safety talks, other kinds of gimmicks are used. At one plant, a "ghost" periodically strolled into and across the room, saying nothing, but carrying a sign: "I dropped a wrench in a flywheel," "I breathed too much methyl chloride," and so on.

In another plant, the audience is divided into teams and a game of 20 Questions, on the subject of the

safety talk, is played at the session's end, with a prize, of course, for the winners.

Demonstrations are effective, too. One safety talk started off with the safety man putting a ping pong ball in the toes of each of two shoes, one a dress shoe, the other a toe-capped safety shoe. Then he dropped heavy weights on each, and took out the two balls. The one in the dress shoe, crushed, he waved aloft. "Here's your busted toe," he announced. Safety-shoe use went up.

Stunts like these have played their part in cutting annual on-the-job fatal accidents from 30,000 to about 16,000 in a quarter-century, Braun is confident, and will continue to be of great import.

### The 52-week SUB Plan

Required reading for employers facing union demands for a guaranteed annual wage, or the substituted supplemental unemployment benefit plan, is the agreement which Continental Can Company, New York, recently reached with the United Steelworkers of America, CIO.

Management interest in the plan has been so great that Continental has prepared a summary of the plan, with some questions and answers for distribution to enquirers.

Chief interest, probably, has been in the fact that Continental's plan assures up to 52 weeks of benefits to laid-off regular employees. Highlights of the plan are these:

To be eligible, employees must have had at least three years of continuous service with the company, including at least 4,500 hours of work, 3,000 of these hours in the 36 months preceding layoff.

The layoff must not be due to any strike, slowdown, work stoppage, or picketing (whether by company employees or not) and not due to any kind of labor dispute involving any employees of the company (whether in the bargaining unit represented by the union or not) at any company plant. Further provisos exclude some other kinds of layoffs not under control of management.

An employee's straight time earnings in a "benefit year" must average out to less than 40 hours' pay per week before he may obtain a supplemental benefit.





## Pretty penny for copper

**A look at what modern banking does for one of the oldest industries on earth.**

As any copper man can tell you, it *does* take a pretty penny to keep America's Copper Industry producing nearly a million tons of metal a year, from domestic sources alone.

Traditionally, profits after taxes and capital invested by stockholders finance copper progress. But sometimes—just as happens in the best regulated families—what goes out for expansion exceeds the capacity of working capital. That's where the banker pitches in, or more precisely... advances a pretty penny.

### Bank Role

A bank loan made on the reputation and

resources of a copper company goes to cover practically any activity from mining ore to perfecting new alloys for finished products. In mines, fabricating centers, and manufacturing plants bank loans help dig copper, refine copper and make copper products. And to complete the copper lending pattern, banks frequently help retail merchants stock shelves with the thousands of copper and brass items you use every day.

### The Human Angle

All told, these bank loans to the Copper Industry come to many millions every year. But statistics aside, there's a hu-

man angle to the copper loan story.

*Wherever money works in a freely competitive economy, men and women work, too, and the goods they produce... the wealth they create... make the whole nation happier, healthier and more progressive.*

The Chase Manhattan Bank of New York, a leader in loans to American industry, is proud of the contribution banking has made and is making to the progress of our country.

**THE  
CHASE  
MANHATTAN  
BANK**

(MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION)

One of a series of advertisements being published in New York City newspapers



## When four factories fill the orders— Ozalid speeds deliveries

The company runs four factories. Each factory makes certain furniture items. Showrooms and salesmen send in orders, ranging from single items to quantity contracts. And each factory ships direct to the buyers.

Formerly, on receipt of an order, separate production orders were typed for each factory involved; and later invoices were transcribed from the production orders. Order processing took too long, delayed operations and deliveries. Then the company turned to Ozalid.

Now an order is typed complete on a translucent form, with items for each factory arranged in order. From this original, two Ozalid copies are made

for each factory—with other factory items masked out.

After the order is filled, charges are entered on the original order form—and Ozalid copies serve as customer invoice, and records for shipping, sales, accounting.

The resultant advantages are: order processing takes less time, fewer people. Back orders are handled more easily. Errors are reduced, and retyping eliminated. And Ozalid copies cost far less than the forms previously used.

**I**N ANY office an Ozalid machine displaces hand copying and retyping, transcribing, and proofreading. You make quickly, copies by simply laying a translucent original over a sheet of sensitized material; and feeding into

an Ozalid machine. An exact, clear, dry copy is ready in less than a minute—without photography. *A letter size sheet costs less than 1½¢!*

Anything written, typed, printed or drawn on translucent material can be Ozalid copied. Anybody can use an Ozalid machine.

In thousands of offices, Ozalid is used for copies of reports, bulletins, ledger pages, statements, instruction sheets, charts, etc. On cumulative reports, new entries are added to the original, and Ozalid copies made for current distribution.

Ask the nearest Ozalid distributor (*see phone book*) for a demonstration. Or write 44 Ozaway, Johnson City, N.Y. In Canada, Hughes Owens Co., Ltd., Montreal.



OZAMATIC (left) is a table model, handles sheets as wide as 16", and can make up to 1000 prints an hour.

# OZALID





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Shown is  
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Revolvator Up-  
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and 2000 lb.  
capacity. Also  
dual capacity  
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models.

Revolvator Uplifter Portable Elevator. Multiple use, multiple purpose Revolvator Uplifters, products of 50 years of engineering know-how solve handling problems throughout all industry. Ideal for shop usage, Revolvator Uplifters also speed handling in the shipping department with equal efficiency. The Uplifter is ideal when no shipping dock is available. Electrically-powered Uplifter portable elevators are available in either "plug-in" or battery operated models. Write for information.

**REVOLVATOR CO.**  
8702 Tonnele Ave., N. Bergen, N. J.



**Saves Typing Time ...  
Stops Eye Fatigue!**

### PANAMA "COPY-HOLDER" BOX

Panama-Beaver's exclusive patented carbon paper box has a built-in copy holder that flips open with a flick of the wrist. Keeps copy material upright and in full view ... speeds work ... cuts office costs. Folds up neatly under box lid after use. **COSTS NOTHING EXTRA** when you buy Panama-Beaver Carbon Paper—America's sharpest-writing, cleanest-erasing smudge-free carbon!

Have the Panama-Beaver representative near you show you the Copy Holder Box without obligation!

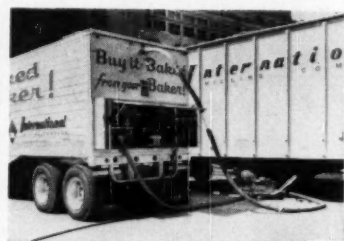
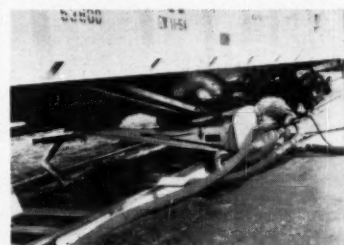
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Coast to Coast Distribution  
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Ebony Duplicating Carbons • Eye-Saver  
Unimasters • Lustra Colorful Inked Ribbons

# Here and There in Business

## WHAT'S NEW

### AS OBSERVED BY THE EDITORS

**Materials transfer unit** is designed to bring the advantages of bulk delivery to companies remote from railroad sidings. Made by Fuller Company, Catasauqua, Pa., it's a portable pneumatic device that



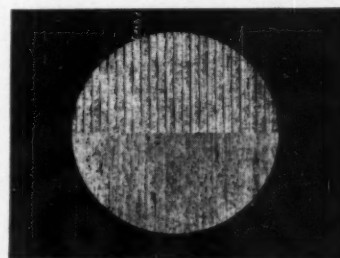
can be used to transfer bulk materials from General American *Airslide* cars to vans or storage bins. The upper photograph is a closeup that shows how the transfer unit is installed under a car. In the lower photograph, bulk flour is being transferred from car to truck.

**Unit construction** that aims at solving the problem of obsolescence is a key feature in design of Gear Grinding Machine Company's new single spindle automatic screw machine, the *Detroit Screwmatic 750*. Ten separate units, which can be replaced individually, go to make up the *Screwmatic 750*: spindle housing (with chucking and trip lever assembly), main spindle unit, vertical slide attachment, spindle drive gear box, front and rear cross slides, turret, turret slide assembly, drive

motor, camshaft and indexing drive unit, and the machine base itself. The machine has other advantages, too, the manufacturer says: simplified tool and cam layout, reversible speed, nine-and-a-half-inch work-length capacity, large chip well.

**Spray-on protective coating**, for indoor and outdoor use, is said to stand temperatures well below zero, resist chemical attack, retain its flexibility indefinitely. An asphaltic, dispersion-type material, it can be applied to wood, metal, and most insulation materials using standard spraying equipment. It's called *Spray-mastic*, is made by Eagle-Picher Company, 900 American Building, Cincinnati 1, Ohio.

**Roughness comparator**, pocket-sized, uses new optical principle to emphasize surface irregularities, make it easier to compare test pieces with standard samples. Upper photograph shows instrument in use; lower photograph, view through



go ahead,  
"CALL" US!



### Lehigh has a "Royal Flush" in warehousing and transportation services!

You get a good deal every time you deal with Lehigh. Our warehousing facilities are without equal, and 35 years' experience has taught us most of the answers to storage and distribution problems.

We have facts on file that prove Lehigh services are often more economical and efficient than operating your own warehouse and trucks. Remember, you pay Lehigh only for services *as used*, so you save on year-round marketing costs!

Five modern Lehigh warehouses and delivery fleets can speed your products into the rich New York metropolitan area. Southern commercial and industrial leaders rely on convenient Lehigh facilities in Richmond and Atlanta. Our vast Horseheads center in upstate New York handles multi-market distribution, processing—even manufacturing. Our big tank farm at Bayonne, N. J., unloads bulk liquids, stores and repacks for low cost distribution. When the chips are down, it's good business to know the Lehigh story. Go ahead, "call" us!

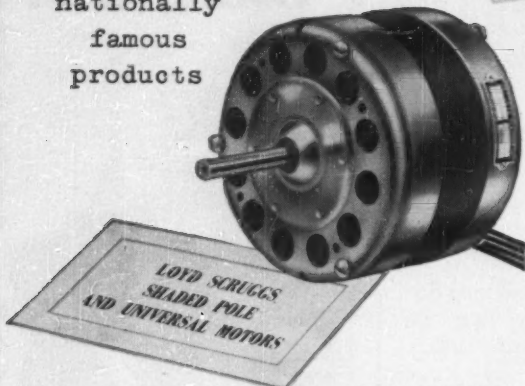
### LEHIGH Warehouse & Transportation Co.

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Tell us your needs; a Scraggs motor  
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**MANUFACTURERS OF PRECISION INSTRUMENTS SINCE 1934**

If your firm operates  
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**Tachographs**

can do these things for you:

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The Tachograph is a recording speedometer which mounts on your truck's dashboard. It automatically records the following information on an easy-to-read, wax-coated chart: When truck started—How fast it traveled—When truck was in motion—When it stopped—How long truck idled and Distance between stops.

Send this coupon today! We're sure you'd like to know more about the Tachograph...the many ways it can help you make your trucking operation safer, more economical, more efficient. Fill out the coupon below. Send it to us and get Bulletin SU-3...it gives the whole Tachograph story.

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Please send a copy of Bulletin SU-3.

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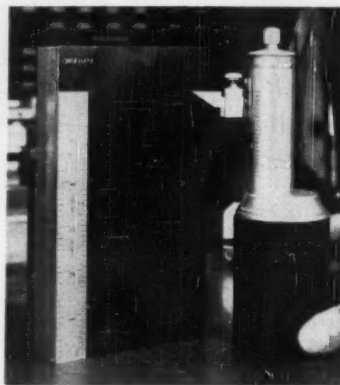
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We operate \_\_\_\_\_ Vehicles **SSS-7**

**TACHOGRAPH**  
the recording  
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Distributed only by  
**WAGNER ELECTRIC  
CORPORATION**

eyepiece, with standard and test pieces each occupying half the visual area. Illumination is provided by a flashlight lamp and batteries, and the lens turns for focusing. Bausch & Lomb Optical Company makes it, says it will be sold through industrial supply houses.



**Height gage** that reads like a micrometer is to be made and marketed by The Greist Manufacturing Company, New Haven, Conn. The gage itself (called a *Micro-Height gage*) is two inches high, but use of a riser, as shown, can extend its range to six inches.



**Portable elevator**, adjustable for varying heights up to 45½ feet, is offered by Berkeley Metal Products, 8550 Wabash Avenue, Berkeley 21, Mo. Equipped with a 5½ horsepower gasoline engine, the unit comes in sections of 8½, 4½, and 2½ feet.

**Expendable paper pallet** that will support a one-ton load, can be knocked down for storage, yet weighs only four pounds, is being made by Titan Products Company, 165 East 74 Street, New York 21, N.Y. Initially, two sizes will be available: 32 by 40 and 40 by 48

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### How to Make and Use Charts—Effectively

A practical guide to the use of modern graphic methods in business. Reduces the theory and practice of presenting facts in visual form to their simplest elements. It gives you direct, detailed, and thorough understanding of the *why* as well as the *how* of each step of the graphic method and process.

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If you will compare the advantages of this "moving belt of interlocking steel", you can readily see why the WELD-BILT is today's most important new aid to materials moving... Far superior to other types of conveyor equipment.

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Next Month

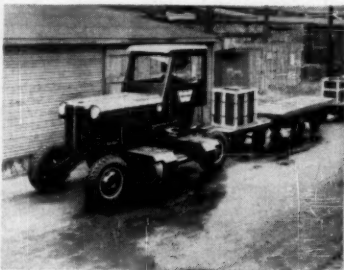
What Is Operations Research?

Read what the experts say  
in the December issue of

**DUN'S REVIEW**  
and Modern Industry

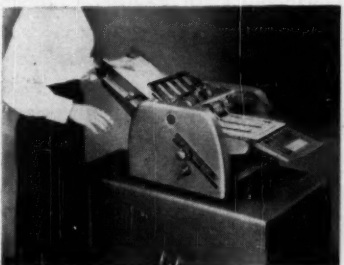
inches, both providing two-way entry for fork trucks. Advantages of expendable pallets like these are, of course, the ease of handling, saving in shipping and the paperwork involved in pallet return, and the fact that the pallet can be imprinted with the user's name and other pertinent information.

*Car-puller does road work, too.* New heavy-duty *Trackmobile* has both automotive and rail-type wheels, can be converted from one



type of operation to the other in little more than a minute. With a draw-bar pull of 12,800 pounds (half again as much as the original *Trackmobile*), the new unit can pull several loaded freight cars, handle trailer trains with ease. The upper photograph shows it working on the rails; the lower, on the road. Whiting Corporation, Harvey, Ill., makes it.

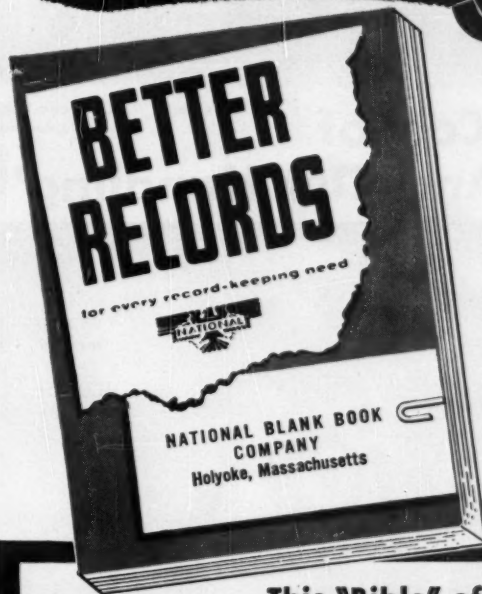
*New folding machine* can be set for six different folds (single, parallel or letter, accordion or state-



## NEW EDITION

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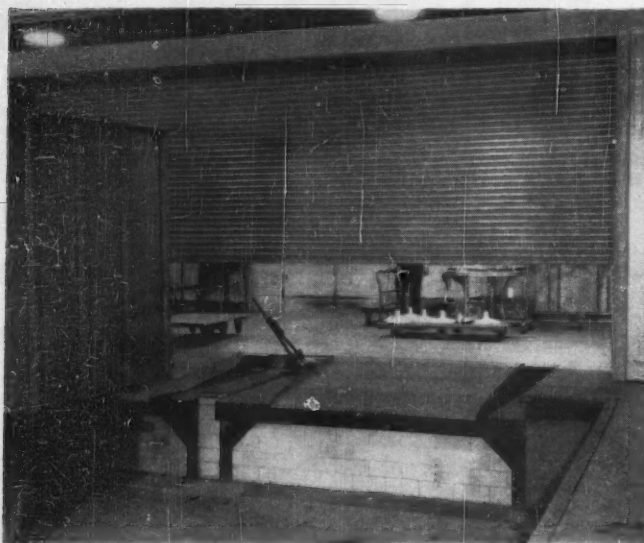
Name.....  
Company.....  
Street.....  
City & State.....

## Newest John Wanamaker Store



Architects: WALLACE and WARNER  
Philadelphia, Pa.

### Cuts Cost of "In-And-Out Handling"\*



## with Kinnear Steel Rolling Doors

\*"In-and-out handling" is involved wherever merchandise or materials must be moved through doorways—in shipping, receiving, warehousing, processing, or production scheduling. It takes a continuous bite out of profits if door equipment isn't of highest efficiency.

That's why, along with such time-savers as loading platforms that adjust quickly to any level, this newest John Wanamaker store features Kinnear Steel Rolling Doors.

You see one of these doors in action above. Note that it opens and closes straight up and down. Merchandise stacked door-high or higher, only an inch or two inside or outside the door, won't hamper its operation.

The door coils compactly above the opening, out of the way and safe

from damage. Wind can't slam it shut or bang it back and forth.

When closed, Kinnear Rolling Doors give all-steel protection against wind, fire, weather, theft, and vandalism.

Heavy galvanizing (1.25 ounces of pure zinc per square foot, ASTM standards) gives the rugged steel curtain extra resistance to corrosion.

In addition, a special Kinnear Paint Bond makes field-applied finishes cover better and adhere longer.

In industrial and commercial applications alike Kinnear Rolling Doors offer "more, for less, for longer".

Built any size, for old or new construction, with motor, manual, or mechanical operation. Write for information on any door need.

The KINNEAR Manufacturing Company



FACTORIES:

1500-20 Fields Avenue, Columbus 16, Ohio  
1742 Yosemite Ave., San Francisco 24, Calif.  
Offices and Agents in All Principal Cities

ment, double parallel, French, and horizontal, and then two vertical). Operating electrically, the unit needs no adjustment once set, can handle up to 150 copies a minute, says manufacturer A. B. Dick Company, Chicago, Ill.

**Public speaking aid**, a miniaturized version of TV's well-known TelePrompTer, is being manufactured by TelePrompTer Corpora-



tion for distribution by Underwood Corporation, New York, N. Y. Called the "TelExecutive," the unit is portable, controlled by speaker (for start, stop, and speed), and can hold enough on each script spool for about an hour's speech.

**New bookkeeping machines**, for large and small companies and banks, emphasize the trend toward office automation (see October, page 55). Among the latest:

The "Sensitronic" and the "Bank-o-Matic," two units for banks introduced by Burroughs Corporation, Detroit, Mich. The first is an automatic imprinter, coder, and sorter for check handling, gets its instructions from information stored on magnetic code stripes on backs of forms. The latter unit, for bookkeeping, uses punched paper tape as input of account numbers, activity, and balances. They are to be field tested soon.

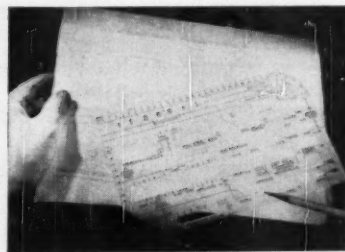
Another banking machine is the "National Postronic," offered by National Cash Register Company, Dayton, Ohio. Operating electronically, this unit also "reads" information stored on backs of forms. It is designed to replace the manual operations involved in checking-account bookkeeping.

Also from NCR is a combined adding-bookkeeping machine for small- and medium-sized compa-

nies. This unit will handle accounts receivable and payable, payroll, and many other functions performed by larger machines.

**Business flying**—in commercial as well as company aircraft—will become more efficient through the use of "TACAN," recently declassified air navigation radio aid, says Federal Telecommunication Laboratories, division of IT&T. Developed in collaboration with the U. S. Navy and Air Force, the unit automatically computes distance and bearing from a tuned-in ground station, regardless of weather conditions. A "private flyer" version of the complex military unit will be made available.

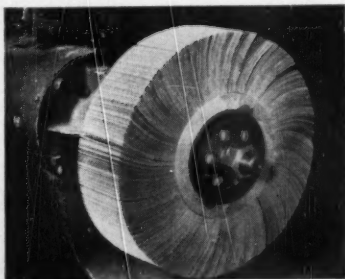
**Office-planning template** has stencil cut-outs and markings for desks, chairs, files, cupboards, and cabinets of various sizes, plus stand-



ard linear and arc scales. Made by RapiDesign, it's obtainable from A. L. Karp, 16 Putnam Park, Greenwich, Conn. Price \$1.60.

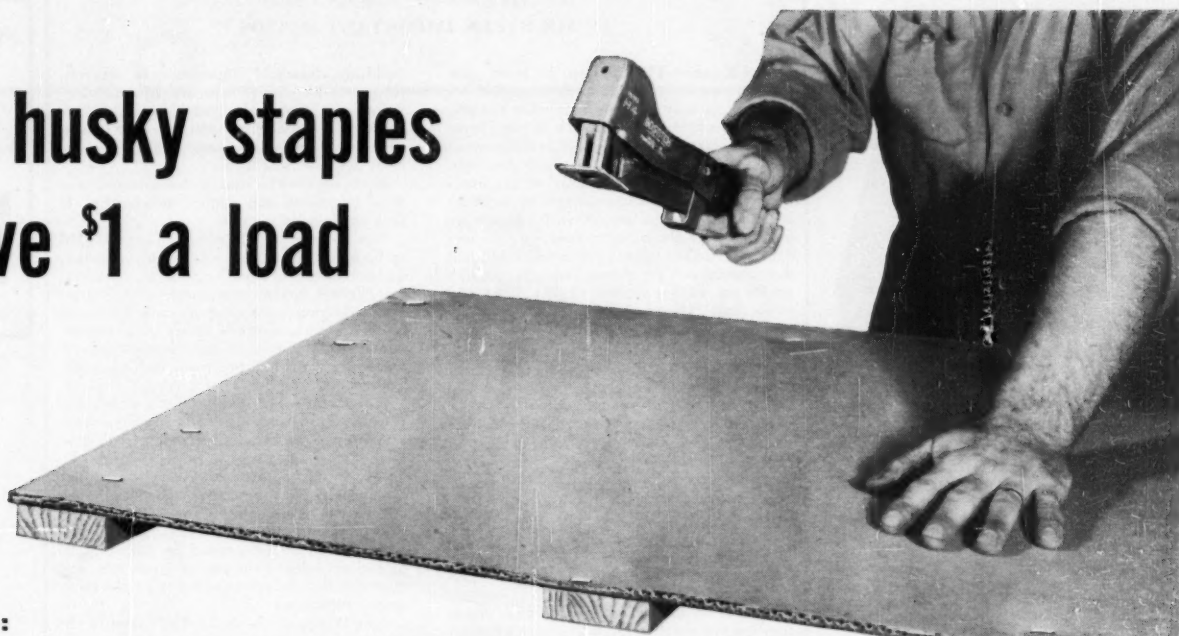
**Metal polishing wheel**, which looks like a rotary index file, but actually is made of hundreds of pieces of cloth-coated abrasives, will conform to almost any shape part.

Minnesota Mining & Manufacturing Company, St. Paul, Minn., calls it the "PG" wheel (for polishing and grinding), and says the design makes it possible to maintain the same rate of cut and degree of finish throughout the wheel's life—until it is worn down almost to the hub.

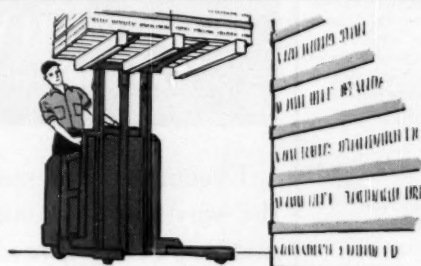




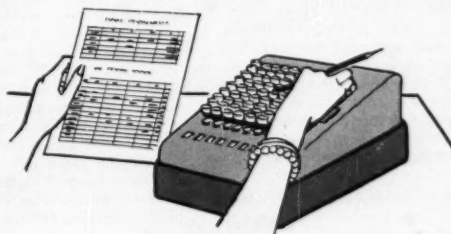
# How 16 husky staples help save \$1 a load



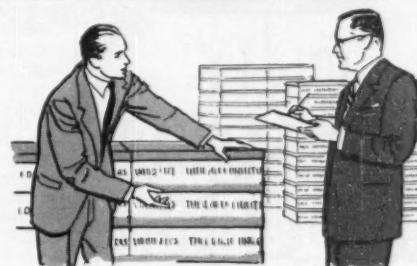
## THE PROBLEM:



In a paper mill, heavy printing stock was loaded on mill pallets and moved by lift truck. These wooden platforms were so costly for customers that often cartons had to be loaded by hand.



But not all customers used lift equipment. Many objected to paying extra for "useless pallets." Orders from these customers meant special handling, added expense.

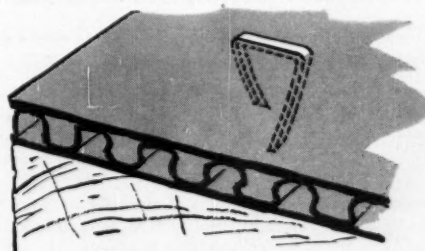


The problem: find a way to keep handling costs down on all orders. Could stapling be the answer? Bostitch had helped cut costs on other jobs in the mill—why not this one too?

## THE SOLUTION:



A Bostitch Economy Man and the mill's engineers worked out the answer—a "give-away" pallet: corrugated board quickly stapled to scrap lumber with a Bostitch H4 Hammer.



Four wood strips raise the load just enough for lift truck chisel forks to slip under. Sixteen  $\frac{3}{4}$ " heavy-duty Bostitch staples secure the strips. The boxed load supports itself between forks.



Entire pallet costs less than 40c. Customers get pallets free, save handling when unloading. The mill saves pallet storage space and hundreds of dollars in handling, billing and salvage costs.

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Your Bostitch Economy Man will work out answers for you without cost. He's one of 375 trained fastening specialists working out of 123 cities in the U. S. and Canada. There are over 800 kinds of Bostitch staplers in his line of cost cutters for business and industry. Look up "Bostitch" in your telephone directory. Or mail the coupon at the right.

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STAPLERS AND STAPLES

BOSTITCH, 671 Mechanic Street, Westerly, R. I.

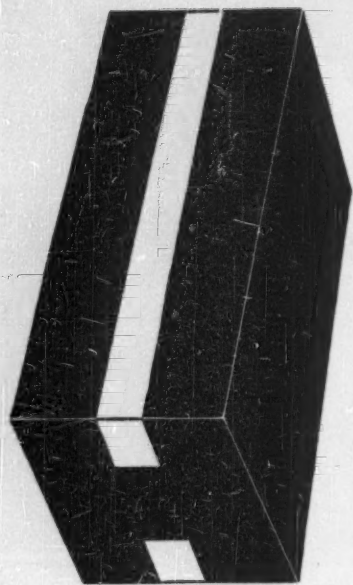
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### DEFINITIONS OF TERMS USED IN FOURTEEN IMPORTANT RATIOS

**THE RATIOS**—The data used are based upon a representative sampling with a tangible net worth which only occasionally is below \$50,000. . . . The center figure for each of the twelve lines is the median. The other two figures in each line are quartiles; for each ratio they indicate the upper and lower limits of the experiences of that half of the concerns whose ratios are nearest to the median. When any figures are listed in order according to their size, the median is the middle figure (same number of items from the top and the bottom) and the quartiles are the figures that are located one-quarter and three-quarters down the list.

**COLLECTION PERIOD**—The number of days that the total of trade accounts and notes receivable (including assigned accounts and discounted notes, if any) less reserves for bad debts, represents when compared with the annual net credit sales. Formula—divide the annual net credit sales by 365 days to obtain the average credit sales per day. Then divide the total of accounts and notes receivable (plus any discounted notes receivable) by the average credit sales per day to obtain the average collection period.

**CURRENT ASSETS**—Total of cash, accounts and notes receivable for the sales of merchandise in regular trade quarters less any reserves for bad debts, advances on merchandise, inventory less any reserves, listed securities when not in excess of market. State and municipal bonds not in excess of market, and United States Government securities.

**CURRENT DEBT**—Total of all liabilities due within one year from statement date including current payments on serial notes, mortgages, debentures, or other funded debts. This item also includes current reserves such as gross reserves for Federal income and excess profit taxes, reserves for contingencies set up for specific purposes, but does not include reserves for depreciation.

**FIXED ASSETS**—The sum of the cost value of land and the depreciated book values of

buildings, leasehold improvements, fixtures, furniture, machinery, tools, and equipment.

**FUNDED DEBT**—Mortgages, bonds, debentures, gold notes, serial notes, or other obligations with maturity of more than one year from the statement date.

**INVENTORY**—The sum of raw material, material in process, and finished merchandise. It does not include supplies.

**NET PROFITS**—Profit after full depreciation on buildings, machinery, equipment, furniture, and other assets of a fixed nature; after reserves for Federal income and excess profit taxes; after reduction in the value of inventory to cost or market, whichever is lower, after charge-offs for bad debts; after miscellaneous reserves and adjustments; but before dividends or withdrawals.

**NET SALES**—The dollar volume of business transacted for 365 days net after deductions for returns, allowances, and discounts from gross sales.

**NET SALES TO INVENTORY**—The quotient obtained by dividing the annual net sales by the statement inventory. This quotient does not represent the actual physical turnover which would be determined by reducing the annual net sales to the cost of goods sold, and then dividing the resulting figure by the statement inventory.

**NET WORKING CAPITAL**—The excess of the current assets over the current debt.

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**TURNOVER OF TANGIBLE NET WORTH**—The quotient obtained by dividing annual net sales by tangible net worth.

**TURNOVER OF NET WORKING CAPITAL**—The quotient obtained by dividing annual net sales by net working capital.

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No. 24 in a series

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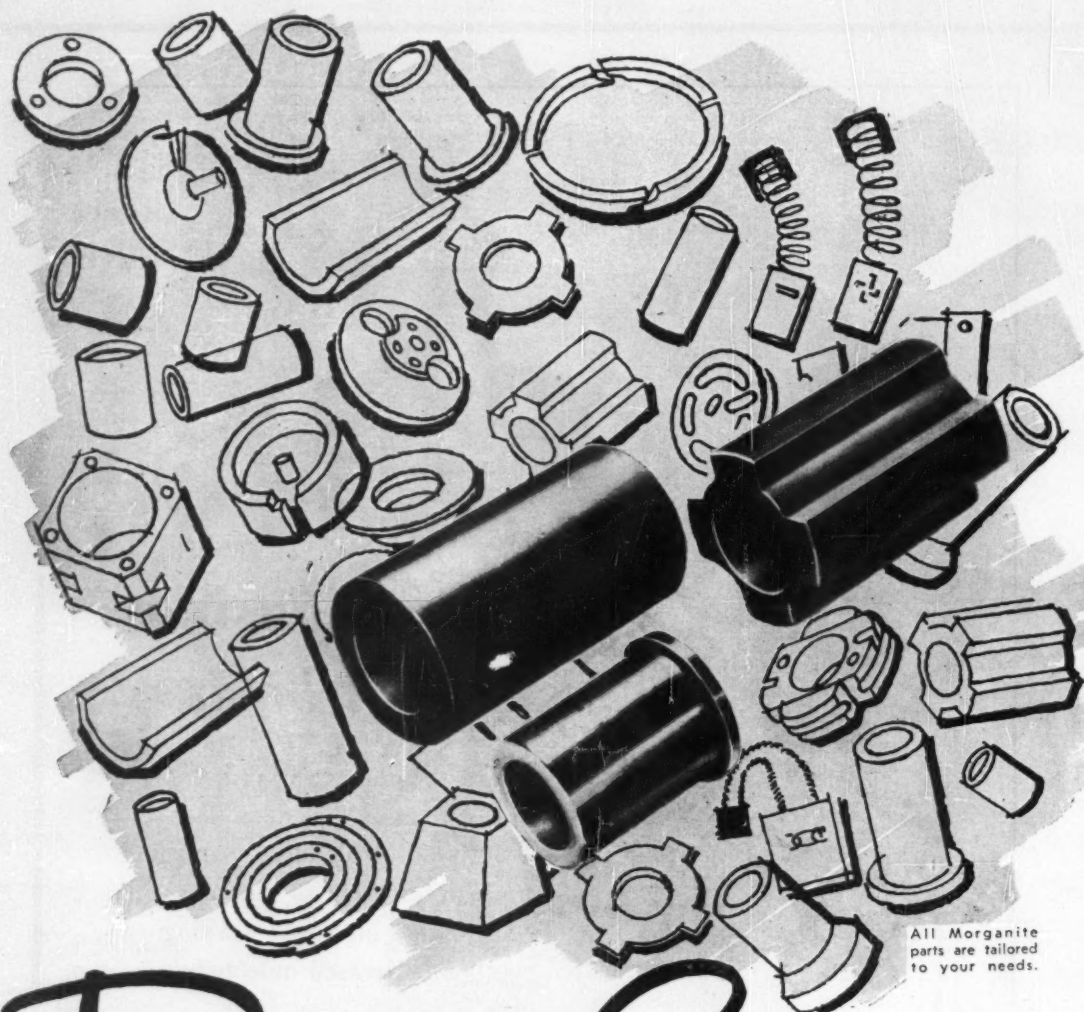
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## ADVERTISING INDEX

ALAN WOOD STEEL COMPANY.....	5
Doremus-Eshleman Company	
ALLEGHENY LUDLUM STEEL CORP.....	74
Walker & Downing, General Agency	
ALLIED PRODUCTS CORPORATION.....	69
Gray & Kilgore, Inc.	
ALLIED RESEARCH PRODUCTS, INC.....	4
Emery Advertising Corporation	
ALLIED STEEL AND CONVEYORS, INC.,	
ALLIED AUTOMATION DIVISION.....	9
Schneider Studios, Inc.	
AMERICAN AUTOMATIC TYPEWRITER	
CO.....	109
Frank C. Nahser, Inc.	
AMERICAN TELEPHONE & TELEGRAPH	
CO.....	122
N. W. Ayer & Son, Inc.	
ARNOLD CORPORATION.....	32
Scandin & Company	
AVCO MANUFACTURING CORP.....	28-29
Benton & Bowles, Inc.	
AXELSON MANUFACTURING CO.....	Cover II
Grimm & Craigie, Inc.	
BAKELITE COMPANY, DIVISION OF	
UNION CARBIDE & CARBON	
CORPORATION.....	35, Cover III
J. M. Mathes, Inc.	
BAKER-RAULANG CO., THE.....	92
G. M. Basford Company	
BALTIMORE & OHIO RAILROAD.....	70
The Richard A. Foley Advertising Agency, Inc.	
BANKERS BOX COMPANY.....	32
Frank C. Jacobi Advertising	
BANKERS TRUST COMPANY.....	12
Donahue & Coe, Inc.	
BARRET-CRAVENS COMPANY.....	98
The Buchen Company	
BATON CONSTRUCTION	
CORP.....	32, 80, 102, 115, 118, 121
The Roland G. E. Ullman Organization	
BOSTITCH, INC.....	117
N. W. Ayer & Son, Inc.	
BREUER ELECTRIC MFG. CO.....	86
Grimm & Craigie, Inc.	
BURROUGHS CORPORATION.....	66
Campbell-Ewald Company	
CHASE MANHATTAN BANK, THE.....	111
Albert Frank-Guenther Law, Inc.	
CHESAPEAKE AND OHIO RAILWAY.....	10
Robert Conahy, Inc.	
CHEVROLET DIVISION, GENERAL	
MOTORS CORP.....	24
Campbell-Ewald Company	
CHRYSLER CORP., AMPLEX DIVISION.....	80
Ralph Sharp Advertising Inc.	
CITIES SERVICE COMPANY.....	108
Albert Frank-Guenther Law, Inc.	
CITY BANK FARMERS TRUST CO.....	68
Kennedy Sinclair, Inc.	
COFFEE-ETTE OF AMERICA, INC.....	61
S. Lawrence Rothman	
COLUMBIA RIBBON AND CARBON	
MFG. CO., INC., COLITHO DIV.....	99
E. M. Freystadt Associates, Inc.	
COMMERCIAL CREDIT COMPANY.....	25
VanSant, Dugdale & Company, Inc.	
COMMONWEALTH OF PUERTO RICO,	
ECONOMIC DEVELOPMENT	
ADMINISTRATION.....	81
Ogilvy, Benson & Mather, Inc.	
COUNSEL MACHINE COMPANY, INC.....	94
Rea, Fuller & Company, Inc.	
CUSTOM DIE COMPANY.....	75
Capital Advertising, Inc.	
CUTLER-HAMMER, INC.....	27
Kirkgasser-Drew	
DANLY MACHINE SPECIALTIES, INC.....	64-65
Waldie and Briggs, Inc.	
DETEX WATCHCLOCK CORPORATION.....	79
J. M. Kesslinger & Associates	
DRAKE, STARTZMAN, SHEAHAN AND	
BARCLAY.....	115
Marsteller, Rickard, Gebhardt and Reed, Inc.	
DROP FORGING ASSOCIATION.....	34
The Lee Donnelly Co.	
DUN & BRADSTREET, INC.....	107
EAGLE-PICHER COMPANY, THE.....	77
The Ralph H. Jones Co.	
EXECUTONE, INC.....	33
The Joseph Katz Company	
FAULTLESS CASTER CORPORATION.....	90
Perrin-Paus Company	
FARNSWORTH ELECTRONICS CO., A	
DIVISION OF IT&T.....	21
Chamberlin-Junk Advertising Inc.	
FELT & TARRANT MANUFACTURING	
CO.....	87
N. W. Ayer & Son, Inc.	
FORCE, WM. A., & COMPANY, INC.....	34
Philip I. Ross Co.	
GENERAL AMERICAN TRANSPORTATION	
CORP., PLASTICS DIVISION.....	59
Weiss and Geller, Inc.	
GENERAL ELECTRIC COMPANY.....	72
Maxon, Inc.	
GLICKMAN, LOUIS J.....	102
S. Posner & Company	
GRAPHIC SYSTEMS.....	121
Diener & Dorskind, Inc.	
GUMMED PRODUCTS COMPANY, THE.....	118
E. M. Freystadt Associates, Inc.	
HANSEN, A. L., MFG. CO.....	103
J. M. Haggard, Advertising	
HEARNE BROTHERS.....	99
Schippers Associates	
HEINON COMPANY, THE.....	60
Paulson-Gerlach & Associates, Inc.	
HEYER CORPORATION, THE.....	103
Frank C. Jacobi Advertising	
HUDSON PULP & PAPER CORP.....	19
Lewin, Williams & Saylor, Inc.	
HYDROWAY SCALES, INC.....	110
Rossi and Company	
INDIANA DEPARTMENT OF COMMERCE	
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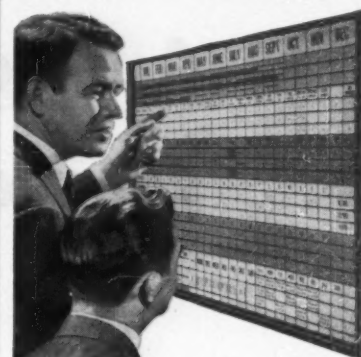
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Sworn to and subscribed before me this 20th day of September, 1955. NELLIE L. FENKER (Seal) (My commission expires March 30, 1957).

INSURANCE COMPANY OF NORTH AMERICA.....	22-23
N. W. Ayer & Son, Inc.	
INTERNATIONAL NICKEL CO., INC.,	
THE.....	83
Marschalk & Pratt Co., Inc.	
INTERNATIONAL STEEL COMPANY.....	106
Keller-Crescent Co.	
INTERNATIONAL TELEPHONE & TELEGRAPH CORPORATION.....	95
J. M. Mathes, Inc.	
IOWA DEVELOPMENT COMMISSION.....	105
W. D. Lyon Company	
IRONS & RUSSELL COMPANY.....	121
Knight and Gilbert, Inc.	
KINNEAR MANUFACTURING CO., THE.....	116
Wheeler-Kight & Gainer, Inc.	
KULIAN CORPORATION, THE.....	62
The Roland G. E. Ullman Organization	
L.A.B. CORPORATION.....	94
Richards & Webb, Inc.	
LEHIGH WAREHOUSE & TRANSPORTATION COMPANY.....	113
Burke Dowling Adams, Inc.	
LOUDEN MACHINERY COMPANY, THE.....	18
Kirkgasser-Drew	
MAGLINE, INC.....	20
Rossi and Company	
MANIFOLD SUPPLIES CO.....	113
Richard & Gunther, Inc.	
MARSH STENCIL MACHINE CO.....	102
Ronn Advertising Company	
MARSH & MCLENNAN, INC.....	98
Doremus & Company	
MILWAUKEE DUSTLESS BRUSH CO.....	34
Al Herr Advertising Agency, Inc.	
MITTAG & VOLGER, INC.....	7
Campbell-Ewald Company	
MONROE COMPANY, THE.....	80
Lessing Advertising Company, Inc.	
MONSANTO CHEMICAL CO.,	
PLASTICS DIVISION.....	96
Needham, Louis and Brorby, Inc.	
MORGANITE INCORPORATED.....	120
Hill and Devore	
NATIONAL BLANK BOOK COMPANY.....	115
Sutherland-Abbott	
NATIONAL TRUCK LEASING SYSTEM.....	32
W. S. Kirkland Advertising	
NEENAH PAPER COMPANY.....	88
Burner-Kuhn Advertising Co.	
OILJAK MANUFACTURING COMPANY.....	104
Josephson, Gulik & Co.	
OLD TOWN CORPORATION.....	73
Charles W. Hoyt Company, Inc.	
OXFORD FILING SUPPLY CO., INC.....	121
Joseph Reiss Associates	
OZALID DIVISION, GENERAL ANILINE & FILM CORPORATION.....	112
L. E. McGivena & Co., Inc.	
PEERLESS PHOTO PRODUCTS, INC.....	91
John Mather Lupton Company, Inc.	
PITNEY-BOWES, INC.....	31
L. E. McGivena & Co., Inc.	
PORTER, H. K., COMPANY, INC.....	8
St. Georges & Keyes, Inc.	
PROPHET COMPANY, THE.....	17
L. DuMahaut Advertising Agency	
RAYMOND CORPORATION, THE.....	103
Taylor M. Ward, Inc.	
RECORDAK (SUBSIDIARY OF EASTMAN KODAK COMPANY).....	100
J. Walter Thompson Company	
REMINGTON RAND DIVISION OF SPERRY RAND CORPORATION.....	3
Leeford Advertising Agency, Inc.	
REVERE COPPER AND BRASS INCORPORATED.....	6
St. Georges & Keyes, Inc.	
REVOLVATOR CO.....	113
Fredericks & Co., Inc.	
RISING PAPER COMPANY.....	63
McAdams & Baird, Inc.	
ROYAL BANK OF CANADA, THE.....	82
Albert Frank-Guenther Law, Inc.	
ROYAL MCBEE CORPORATION.....	89
Albert Frank-Guenther Law, Inc.	
SCRUGGS, LOYD, COMPANY, THE.....	114
Winius-Brandon Company	
SHREDMASTER CORPORATION, THE.....	80
Capton, Inc.	
STEELCASE INC.....	84
Wesley Aves & Associates, Inc.	
SYNTRON COMPANY.....	102
Servad, Inc.	
SYNDRECO, INC.....	32
DGB-Advertising Agency	
TEXAS COMPANY, THE.....	Cover IV
Erwin, Wasey & Company, Inc.	
TEXTILE BANKING COMPANY, INC.....	119
L. E. McGivena & Co., Inc.	
TODD COMPANY, INC., THE.....	101
The Merrill Anderson Company, Inc.	
TORRINGTON MANUFACTURING CO.....	93
Graceman Advertising, Inc.	
TRAVELERS, THE.....	30
Young & Rubicam, Inc.	
UNION PACIFIC RAILROAD.....	97
The Caples Company	
VAN HUFFEL TUBE CORPORATION.....	71
Chamberlin-Junk Advertising Inc.	
VICKERS INCORPORATED, DIVISION OF SPERRY RAND CORPORATION.....	78
Witte & Burden	
WAGNER ELECTRIC CORPORATION.....	114
Arthur R. Moog, Inc.	
WASSELL ORGANIZATION, INC.....	82, 106
James Flanagan Advertising Agency	
WEBER LABEL AND MARKING SYSTEMS	
Glenn, Jordan, Stetzel, Inc.	
WEST BEND EQUIPMENT CORP.....	115
Morrison-Greene-Seymour, Inc.	
WEST-DEMPSTER COMPANY.....	110
Wallace-Lindeman, Inc.	
WEST DISINFECTING COMPANY.....	26
G. M. Basford Company	
WING, L. J., MFG. CO.....	76
Willard G. Myers Advertising Agency	
WOODCO CORPORATION.....	67
Kraus-Bach Associates, Inc.	
YODER COMPANY, THE.....	85
G. M. Basford Company	

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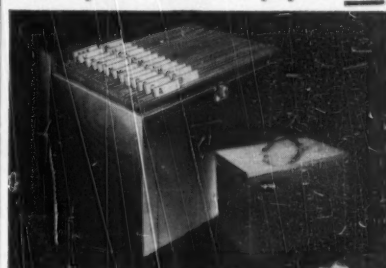
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San Francisco to Washington, D. C. . .	\$2.50

These are the daytime Station-to-Station rates for the first three minutes. They do not include the 10% federal excise tax.

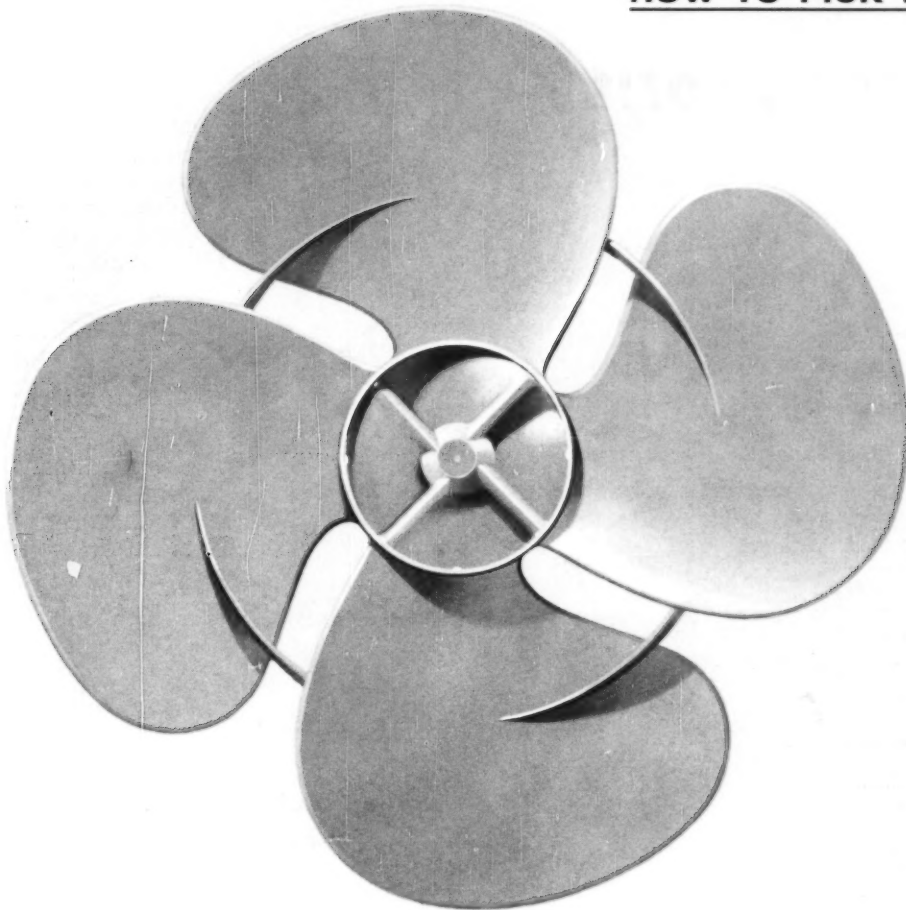
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... excellent  
performance"**

**COMMERCIAL SCREW MACHINE PRODUCTS, Inc.,** Horseheads, New York, reports on its experience with *Texaco Cleartex Oil*. Mr. C. L. Shull, President, states:

*"Texaco Cleartex Oil has been in use in our plant for over eight years, with complete satisfaction. We have taken advantage of its dual-purpose ability and have used it both as a cutting coolant and a machine lubricant."*

*"The excellent performance of Texaco Cleartex Oil has been amply demonstrated. We highly recommend this product as a dual-purpose oil."*

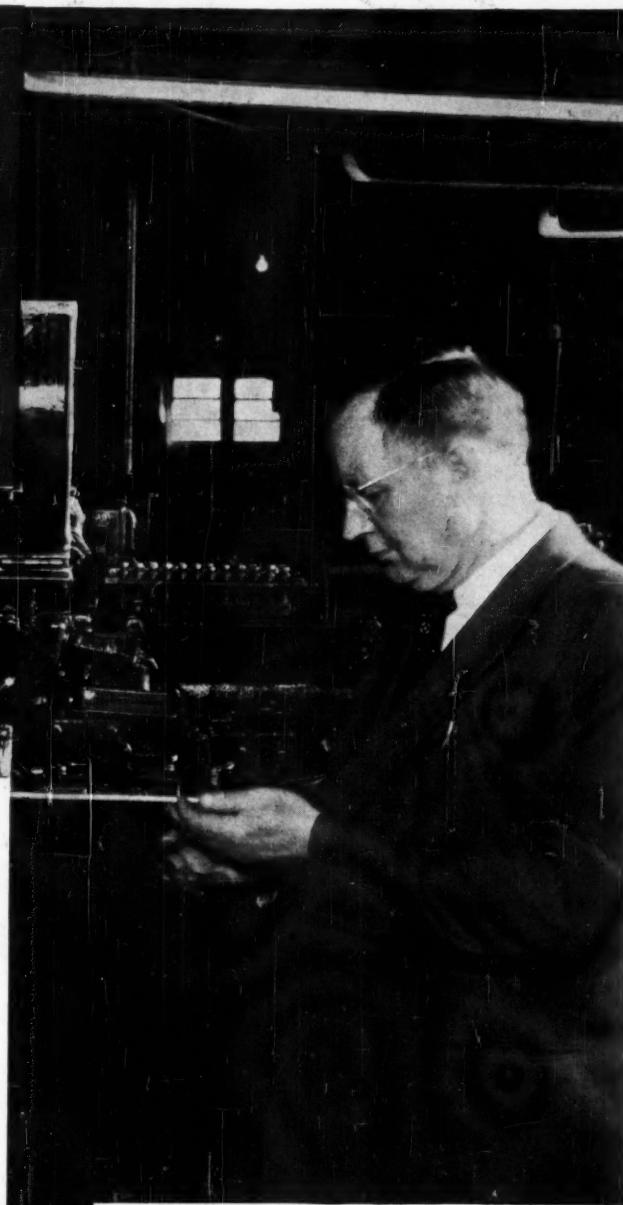
*Texaco Cleartex Oil* is one of a complete line of *Texaco Cutting, Grinding, Soluble and Hydraulic Oils* designed to help you do all your machining better, faster and at lower cost.

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